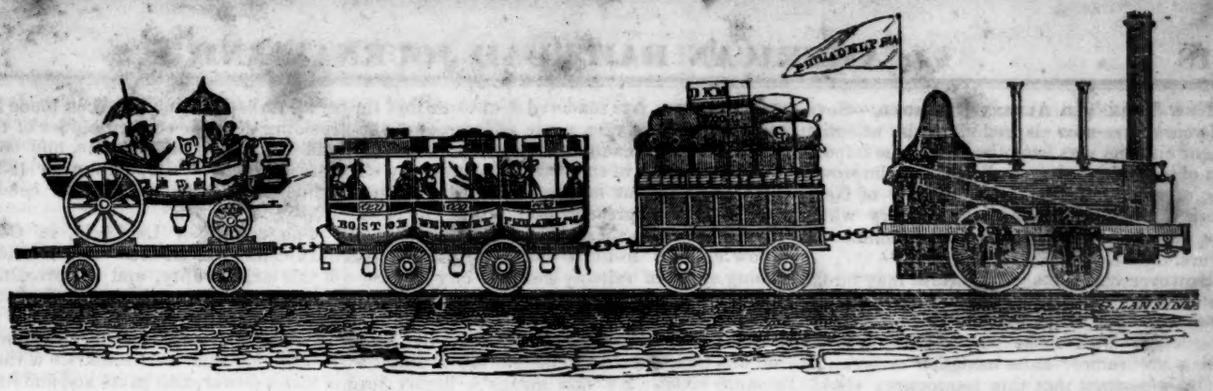

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JULY 6, 1833. [VOLUME II.—No. 27.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 6, 1833.

☞ Books for Subscriptions to the Stock of the *New-York and Erie Railroad* will be opened on the 9th, 10th, and 11th of July, inst. at the Merchants' Exchange, in this city.

New-York and Albany Railroad.—We are again called upon by the importance, to this community, of the above named Railroad, to ask for the following statement of facts an attentive perusal. They will satisfy, we believe, any unprejudiced and candid person, that the project for a railroad from this city to Albany, through the eastern, or even the more central, part of the counties lying east of the Hudson, and bordering upon Connecticut and Massachusetts, will not only prove a safe, but in fact a judicious investment to the capitalist. It has been urged by many, and with very plausible arguments too, that a railroad so near, and parallel to, such a water course as the Hudson, can never become productive stock; because, they say, transportation cannot be effected as cheap upon it as upon the river; this may be true so far as it relates to goods intended for, or produce deposited in, the storehouses immediately on the river, and during nine months of the year, but not so when we refer to the interior or remote parts of those counties, as well as to the counties in the adjoining states, where they have to pay, in addition to river freight, the expense of transportation to, and often of storage at, the river: nor can the trip to and from New-York be performed with the same ease, facility and despatch, by the river as by a railroad. The ordinary rate of speed upon the river does not now exceed about twelve miles per hour, whilst 15, and even 20, miles may with ease be attained on a railroad by locomotives—and we have not a doubt that greater improvements will be made in the construction of railroads and railroad machinery within twenty years to come, than have been made in steamboats within twenty years past; nor do we believe that we calculate too sanguinely upon the spirit of the age, when we say that our faith is strong in the belief that, before the 4th of July, 1850, the man of business may take his breakfast and tea in New-York and dine the same day in Albany. With a railroad from New-York to Albany there will be more uniformity of business than at present; the farmer and manufacturer will be able to send the produce of their labor to market as soon as it is ready, instead of keeping it on hand until the river opens, and especially those articles of a perishable nature, by exposure to warm weather. Butter, lard, poultry, pork, and various other articles equally necessary for every day's use, may be brought to market with as great ease during the coldest days of winter as at any other season, by which means the farmer will receive good prices, and the citizen will obtain them at a more reasonable rate than at present.

There will be found in this number of the Journal a communication from Mr. Sullivan, on the preservation of Wood Rails. It is a subject well worthy of investigation, particularly at the present moment, when books are to be opened for two railroads of such vast importance as the *New-York and Erie* and *New-York and Albany*. If the theory is correct, an immense amount of money may be saved by its adoption; if not correct, it should be so decided before it shall have been extensively adopted.

We observe in the Albany Daily Advertiser, a very particular account of the first locomotive engine placed upon the Saratoga Railroad.

According to this account, it is one of the most complete locomotives which have been invented. It left Schenectady with a train of freight waggons, on the morning of the 2d of July, overtaking a train of passenger cars at Ballston, which it took up in addition, and with these arrived at Saratoga in one hour and forty minutes, stoppages included. Its second trip over, was in the afternoon of the same day. It left Schenectady at 5 P. M. with a train of cars, and reached Saratoga in one hour and thirty minutes, stoppages included; and this was during a heavy thunder shower, working with only about thirty pounds of steam, over muddy rails. A gentleman who was passenger states, that, during some part of the way, the speed was at least thirty miles per hour! After a very minute description of every part, too much in detail for our space, the Albany Daily concludes with the following summing up of its properties:

The engine is very easily cleaned, and is by its convenient arrangement as easily managed.

It is capable of drawing 15 tons at the rate of 17 miles an hour, and even more, with about five bushels of coke, which will cost perhaps 10 or 12 shillings.

It will do the work of 50 horses, which are an expense of $50 a day, for the comparatively trifling sum of $15 a day, *all* expenses included.

It will enable travellers to reach Saratoga in two hours and a half from Albany, if the Mohawk company do not suffer the private interests of two or three persons to create unnecessary delays at Schenectady—delays against which there is an unanimous complaint.

It shows what may be done by good management, on a cheap and useful road; and adds another to the many proofs already existing, of the skill and good conduct of the directors and agents of the Saratoga company.

The engine itself is a model of excellence and elegance, and may be considered the ne plus ultra of the manufacturer.

The "Camden and Amboy Rail Road and Transportation and the Delaware and Raritan Canal Companies," paid to the Treasurer of the State of New Jersey, on the 27th June, the sum of $15,000, for the first 6 months running passengers, &c. via said Rail Road, being the half yearly payment of the $30,000, stipulated by said companies to be paid to the State of New Jersey, for privileges granted.

Utica and Schenectady Railroad.—The following are the sums subscribed at the respective places at which the books were opened, for the capital stock of this company.

New York	$5,286,000
Albany	3,257,000
Utica	4,300,000
Schenectady,	1,541,000
	$14,374,000

NEW-YORK AND ALBANY RAILROAD.—Several years have now elapsed since the attention of our citizens was first directed to the important object of opening a direct and improved line of communication from the city of New-York through the heart of the country which lies between the Hudson and Connecticut rivers.

However valuable and important may be the water communications which this city now possesses, it is still desirable to obtain a free intercourse with those parts of the country which are remote from navigable waters. It is also important that this intercourse should be free from the embarrassments and periodical interruptions to which navigation is subject, and from the troublesome and expensive shipments and retransportations to which this mode of conveyance is necessarily subject. Nor can the multifarious productions of the interior country be otherwise brought to the doors of its citizens, or rendered fully available to their comfort, and to the growth and prosperity of both city and country.

Impelled by considerations of this character, a number of our citizens were at a former period induced to undertake the construction of the Sharon canal, a work which afforded the best prospect then known to the public of realizing these objects. Had that work been completed, it would still have failed in the important desideratum of affording a free intercourse during the winter months, when the usual means of conveyance are for the most part unavailable; nor would it have been at all adapted to the advantageous transportation of passengers, which is often the most important and always the most profitable business of a railroad. A concurrence of adverse circumstances, in connexion with the spirit of stock-jobbing, which prevailed so extensively at that period, gave a death-blow to that enterprise at an early stage of its progress. The superior advantages of railways were at that period unknown to the public, and the failure in executing the canal, though painful to its patriotic friends, can at this time hardly be regretted, since it leaves this valuable section of the country open to an improvement of a more useful and important character.

Since the advantages of railways for general purposes have been practically demonstrated, further attention has been given to this important line of intercourse, and near the close of the year 1830 public notice was given of an application to the legislature of New-York, for an act of incorporation for the purpose of constructing a Railway from the city of New-York to a point near Sharon in Connecticut, having in view the general route which had been chosen for the Sharon Canal, and for liberty to extend the railway at a future period so as to intersect the Hudson at or near the city of Albany. But owing to a defect in the publication of this notice, the subject was not at that time brought before the legislature.

The rapid accumulation of the evidence in favor of railroads, and the degree of confidence and expectation which that evidence was calculated to inspire, now rendered it imperative on the friends of this improvement to present its claims before the legislature and the public, on the broad footing of its manifest utility and importance. Legal notice was accordingly given in the summer of 1831, of an application which should comprise the objects first contemplated, and should also provide for a continuous line of railroad to the cities of Albany and Troy: and in addition to its primary objects, thus remove those embarrassments which annually occur from the suspension of the usual intercourse through the channel of the Hudson.

A provisional committee, which was organised in this stage of the proceedings, published a prospectus of the undertaking, in which they remark as follows:

"The rapid extension of the means of improvement, which is resulting from the introduction of railways and the use of locomotive steam engines, has rendered it obvious that the establishment of this mode of intercourse between our great commercial metropolis and the interior portions of the country is not only eligible in itself, but is also demanded by a just regard to our present and future interests. With these views the committee propose to their fellow-citizens to unite their efforts for establishing a line of railway from the city of New-York to the city of Albany, and connecting at that point with the great lines of intercourse which extend through the valleys of the Hudson and the Mohawk, to the Northern and the western lakes. By this means a highly improved and uninterrupted communication will be preserved at all seasons with the interior of the state and its seat of government; new and extensive sources of wealth in the mineral, agricultural, and manufacturing departments of industry will be opened; and a main trunk or channel be formed for a most valuable system of communication with the New-England states, and which will serve as a base line for numerous branches and lateral communications of lesser magnitude and cheaper construction, which the welfare and convenience of the adjacent country will not fail to require."

It will be seen from what has already been premised, that the proposed "New-York and Albany Railroad" is not designed to enter into competition with the general business now transacted on the Hudson river, but will, as its friends believe, find ample support in the general business of the country through which it is destined to pass, and in the exclusive business which it will command at those seasons in which the present communications are obstructed and impassable. It is the proper business of the country which is intersected, that gives the greatest value to the most important channels of intercourse in our country. It will be useful, therefore, to inquire into the amount of business which can be furnished to the railway from the country on its borders, and from those interior districts which must mainly depend on it for their intercourse with a maritime market.

The county of Westchester is the first district to which our inquiries will be directed. This large, populous, and wealthy county will be intersected by the railway at nearly equal distances between the shores of the North and the East rivers. The inhabitants of this county will thus obtain ready access to the city markets, and the impulse which will thereby be given to the agricultural and manufacturing industry of the county must, from the very circumstance of its contiguity to the city of New-York, afford a large annual amount of tonnage and passengers to the railroad, with which its interest will be especially identified. In one of the remote towns in this county, the descending tonnage for a railway has been estimated at near 2000 annually, and the passengers at 800 in each direction. The population of this county in 1830 was 36,476; the valuation of real and personal estate in 1831, was 9,397,840 dollars.

The county of Fairfield, in Connecticut, lies near the contemplated route of the railroad, and the interior portions of it can have no other favorable outlet for the products of their industry, which now contribute much to the general business of the city and country. A branch railway of nine miles will reach Danbury, one of the shire towns of this county, overcoming an elevation of but 43 feet. Some estimate may be formed of the industry and amount of business of this flourishing town, from the fact that two hundred thousand feet of boards are annually used in the construction of packing boxes for the single article of *hats* sent to the New-York market. The number of passengers booked by the stages at the same place is said to be 6000 annually.

The county of Putnam, though of limited extent, will afford much for the support of a railway. Extending from the Hudson at the Highlands to the east line of the State, its most valuable and productive portions will be found contiguous to the railroad. A partial estimate of its transportation has been made by citizens residing near the eastern border of the county, which amounts to 7000 tons, and 6000 passengers annually. Population in 1830, 12,701. Valuation of real and personal estate in 1831, $2,198,889.

The county of Litchfield, in Connecticut, next claims our notice. The interior position of this large county, and its proximity to our borders and to the route of the railway, will secure to the latter almost the whole amount of its export and import trade. Possessing in the Housatonic and its tributaries a vast amount of water power, rich in its soil and its extensive deposits of iron ore, limestone, and marble, its productions must be greatly multiplied by the increased facilities which the railway will afford. The iron of this county possesses the highest reputation, and is now transported from Salisbury, on the borders of this state, to the United States' Armory at Springfield, by land, at an expense of twelve dollars per ton. Some estimate of the present business of the county may be formed by an examination of the following statement of its productions and their annual value, by John M. Holley, Esq. which has recently been published:

Pig and bar iron, &c. -	$293,000 00
Manufacture of iron, &c. -	177,650 00
Other productions, produce, &c.	1,414,200 00
Total - -	$1,884,850 00

The number of passengers to and from New-York, furnished by this county, is very great, and constantly increasing.

The county of Dutchess, which has been long distinguished for its agricultural industry and wealth, will contribute much to the permanent business of the railroad. Much of its finest soil lies contiguous to that beautiful valley through which the railway is designed to pass. Careful estimates of the present amount of transportation have been made in some of the towns in the eastern portion of the county, and the result is highly favorable. An average of eight towns in this county, may be supposed to give their support to the railway throughout the year, not to include the business which would be derived from the other towns, and from the flourishing village of Poughkeepsie, in the winter season. The present transportation of three of the above towns, is estimated at 10,167 tons, at the annual cost of 36,168 dollars. Applying this ratio to the eight towns, and then deducting one half of the amount, will afford the estimate which we shall venture to give of the present transportation of this county, which will pertain to the railroad, and is equal to 13,556 tons annually, at an expense of 48,224 dollars. The number of passengers which can be obtained from this county is not known. Population of the county, 50,926. Valuation of real and personal estate in 1831, $16,188,739.

We are next called to notice the amount of business which can be obtained for the railway, from the county of Berkshire, in Massachusetts, the inhabitants of which, owing to its peculiar position, are more deeply interested in the success of this enterprise than almost any other section of country. An examination has been made of the amount of transportation in thirteen towns in the county, which amounts, independent of certain omissions, to 20,981 tons annually, which, at the existing rates, costs 106,157 dollars. The remaining seventeen towns of this large county are represented as affording at least an equal amount, making an aggregate of 212,314 dollars, exclusive of a large number of passengers from the county and other parts of the country more remote from the railway. A respectable inhabitant of that county, in a letter to the corresponding committee, says: "Although the result of this examination exceeds even our hopes, still, in my view, it is not the most interesting feature of the subject. The business which a railway would *create*, and the increased activity which it would give to branches now pursued, is the great point. We have marble in this town suitable for every part of the most splen-

did dwelling, from the foundation stone, to the mantel and pier-table in the parlor. Every variety of color from white to black is here, with the exception of that which is denominated Egyptian. Yet it avails us nothing: we have no means of transporting it to market. What is here said will, in many particulars, apply with equal force to many other towns." The article of hay, of which vast quantities would be sent to the New-York market, has not been included in the estimate.

In the county of Columbia we may estimate an average of nine towns as being immediately connected with the railway. One of these towns affords a greater amount of transportation than any other town from which returns have been received, and the whole are averaged as equal to the three towns in Dutchess, whose returns have been mentioned. Deducting one-half the amount of this estimate, for proximity to navigation and other considerations, there will remain 15,250 tons, at the annual cost of 54,252 dollars. The population of this county is 39,954. Valuation of real and personal estate 9,776,941 dollars.

Passing over the towns which will be intersected by the railway in Rensselaer county and the city of Troy, we will consider the whole county, as well as that of Albany, as forming the northern terminus of the route, the estimate for which will claim our attention hereafter.

The data on which we proceed in estimating the amount of business which will be afforded to the railroad, though founded on careful estimates in some towns, is necessarily imperfect in regard to others. Some of our estimates may possibly be overrated, others certainly fall short of the truth, and in those towns where a careful re-examination has been made, the amount has been much increased, and there is good reason for believing that the returns on which our results are chiefly predicated, are more precise and authentic than are usually obtained in similar cases. We shall be justified, therefore, in completing our approximate estimation of the business of the country contiguous to the route of the railway, and shall then give to the travel and transportation, which will pass through the entire length of the route, a separate consideration.

We accordingly present the following summary:

	tons.	at the cost of
Reduced estimate of nine towns in Columbia county, -	15,250	$54,252
Estimate of Berkshire, -	41,962	212,314
Reduced estimate of Dutchess county, - - -	13,556	48,224
Litchfield county, estimated at ⅔ of Berkshire, - -	31,472	159,236
Putnam co., partial estimate,	7,000	28,000
Fairfield county, - -	7,000	28,000
Westchester county, estimated equal to Putnam and Fairfield, - - - - -	14,000	56,000
	130,240	$586,026

We have thus a total of 130,240 tons now transported annually at the expense of 586,026 dollars. Supposing this to be a proper estimate on the present business of this section of country, the inquiry arises, how much transportation would accrue to the railway when completed, and at what prices?

In answering these important questions it may be proper to suggest, that much of this business now pays an additional freight on the Hudson, a portion of which will be saved to the railway by passing direct to New-York; that although the railway prices must be lower for the same distance than is now paid for transportation on common roads, still the increased mileage in passing to that city will more than compensate for the decrease in price. The effect of the railway will also be to greatly multiply the amount of products transported, so as to preserve, if not increase the gross amount now paid for transportation. Besides this, the general increase of business which may be expected to occur before the period can arrive at which the railway will be opened, especially with the stimulus of the railway in prospect, may be supposed, of itself, more than sufficient to make good the above amount to the railway. Some facts relating to the increase of business in Berkshire will show this in a strong light. About the year 1826 an examination was made into the amount of transportation then afforded by that county, in reference to an extension of the Sharon canal through the rich valley of the Housatonic. It was found that its transportation was then performed at the annual expense of about 100,000 dollars, and the committee who instituted the inquiries ventured to predict, that, with the aid of the facilities which a canal would afford, this amount would be doubled in six years. Since those inquiries were made, six years have elapsed, and, without the aid of the contemplated canal, the transportation now exceeds 200,000 dollars, and intelligent persons in that county, who are conversant with its industry and statistics, avow their belief that with the facilities which a railway on that route might afford, the present amount would be quadrupled in another equal period.

We shall therefore be fully justified in assuming an amount of transportation in the first years of the railway operations, equal to the summary above recited. Lest, however, we should appear too sanguine, and to remove all possible objections, we will deduct 40 *per cent.* from the foregoing estimate of transportation, which reduces the amount to 351,616 dollars.

We come next to the estimate of the *passengers* which would be afforded to the railway from the same district of country, and in making this inquiry we are obliged to proceed on data less precise than that which has governed our estimate of heavy transportation. We are, notwithstanding, in less danger of overrating the subject, for all past experience has shown that the travel in this country, particularly on routes connected with its commercial metropolis increases annually, in a ratio far beyond that of its business or population, and in no case is this increase so high as when connected with the establisnment of steamboats and railroads.

In twelve towns in Berkshire, the passengers to and from the Hudson are estimated as now paying an amount of $10,720 annually. But the estimate is made on the present residents in these towns, not including transient visiters, and with the increase which will accrue in five years, together with the vast multiplication of travel which the railway will occasion, and the increase of mileage in the transit of a great portion of these passengers to the extreme points of the route, it will be fair to estimate the amount from this source from these twelve towns, on the opening of the railway, at $30,000 annually, and the travel of the whole county at $60,000. Nor will this estimate appear exaggerated when we consider that the most productive business of a railway is found to consist in the conveyance of passengers.

We will however estimate the travel of Berkshire county as producing annually to the railway the sum of - - - - $40,000
Litchfield county - - - - - 30,000
Columbia, (including winter travel,) 20,000
Dutchess - - - - - - 20,000
Putnam - - - - - - 12,000
Fairfield - - - - - - 12,000
Westchester - - - - - - 18,000
$152,000

We now devote our attention to that part of the travel to and from the intermediate points on the railway, which is furnished from the cities and counties which are situated at its northern and southern terminations. This important part of the estimate must begin with the city of New-York, which will possess in this railway, if we except the Hudson river, its most interesting and frequented channel of intercourse with the country. Thousands of its citizens will be induced to seek, through this accommodation, a respite from the cares of business, in the rural scenery and free air of the country, which will court their enjoyment. Thousands also of the strangers who visit the metropolis will be attracted by these inducements, and the exhibitions of manufacturing and mechanical skill which this enterprising country affords, to visit places and objects in the vicinity of the railway. To form a just view of the amount of this intercourse, we need but remember that the resident population of the city in 1830 exceeded 207,000 persons, that it is now equal to at least 225,000, and that its real and personal estate is valued at $139,280,214. Brooklyn, which is but an extension of the city, had in 1830 a population exceeding 15,000, which is rapidly increasing, and its valuation is near 7,000,000 of dollars.

At the northern termination of the route we have the flourishing cities of Albany and Troy, a large portion of whose citizens are natives of New-England, who maintain a constant intercourse, both mercantile and social, with the land of their fathers; and if we look beyond these limits to the north and to the west, we find the same relations existing, and a corresponding frequency of intercourse, which must needs contribute largely to the resources of the railway. The valuation of Albany county is $12,739,690. Its population in 1830 was 53,537. Valuation of real and personal estate in Rensselaer county, including Troy, $9,615,392; population 49,472.

It is highly probable that this description of travel to and from the intermediate portions of the route will equal that which is furnished by the intermediate country itself, amounting, as we have seen, to 152,000 dollars, and making a total of 304,000 dollars, a sum, it will be perceived, which is still below the estimated transportation of the same country. In compliance, however, with our former rule of caution, we will reduce this amount to 200,000 dollars.

We have thus an aggregate of 200,000 dollars for the entire intermediate travel of the railway, and which includes not only all which is properly afforded by the counties which are intersected, but also all the intermediate or way travel which emanates from the county of Rensselaer, and the cities of Albany and Troy, on the north, and the city of New-York on the south. Nor can we think this item to be overrated, for, on comparing it with the known amount of travel on stage routes through less important districts, it would evidently justify a larger estimate.

We come now to consider the probable income of the railway, from the business passing from the extreme points through the entire length of the railway, and will first attempt an estimate of that which will pass in the winter months, say an average of three months in each year.

Although the amount of travel between New-York and Albany by the post-road, at this season of the year, is comparatively small, yet all must be convinced that, under the operation of the railway, the business and travel would not only be greatly increased but more equally diffused through the different seasons. During the season of navigation not fewer than eight steamboats pass daily on the Hudson through the entire route. One boat is said to have carried 25,000 passengers annually on an average of past years, and some boats have much exceeded this number. If we allow a season of 35 weeks, and six passages per week, it will give 112 passengers per day for each boat, or an average of near 900 per day, and we may safely allow 75 per day, in each direction, as the average of the long travel in the winter months, when intercourse shall be established by a railway. This number, at five dollars each, which would be a moderate winter price, will amount to 58,500 dollars. This average may seem too small, and doubtless is so, but it must be remembered that we have previously estimated all the travel to intermediate points on the route. The amount of property to be carried through by the railway cannot be so

satisfactorily ascertained, but as the railway will form the sole channel of communication between New York and the interior at that season, and will greatly facilitate commercial exchanges, we will assume the amount of the winter transportation to be equal to the foregoing item, or 58,500 dollars. To this may be added, for light articles transported at other seasons of the year, $12,500.

There remains but one other source of income to be estimated, which is that arising from the long travel in summer, or that which passes through the entire length of the railway during the season of navigation, and which, as has been premised, is not mainly relied upon in calculating its profit or utility. It would be a mistake, however, to infer that no income will be derived from this source. The nature of the case, as well as past experience, shows that an increase of the means and facilities of conveyance always increases travel, and that many travellers will be drawn to the railroad from motives of interest or curiosity, and still greater numbers from considerations of convenience or a desire of change, so that a considerable portion of what is called *pleasure travel*, as well as of the men of business, will be induced to pass in one direction by the steamboats, and in the other by the railway.

If the number of passengers which now pass daily in the steamboats, between the extreme points of the route, be reckoned at 800 on an average of six days to the week, they may, at the expiration of six years from the present period, be safely estimated at 1200 per day. Perhaps one-third of the number would be induced to take the railroad, but we will allow 150 per day, in each direction, as the average of the long travel by the railway at the period of its completion, which in a season of 38 weeks, reckoned at 6 days in a week, gives 68,400 passengers, which, at $2,50 each, will be 171,000 dollars. These amounts require no reduction.

We present the following recapitulation:

Estimated transportation of the country connected with the railway, less 40 per cent. -	$351,616
Winter freights - - -	58,500
Other light freights - - -	12,500
Reduced estimate for way travel pertaining to the route, and also from the cities and other parts of the country - -	200,000
Winter passengers through the entire route - - - -	58,500
To which may be added the estimate for passengers through the entire route, during the season of navigation - -	171,000
Total estimate of annual income	$852,116

It may be seen, from the statistics already given, that the valuation of real and personal estate in the cities and counties, at the termination of the railway, or intersected by it, amounts to about two hundred millions of dollars, without including the adjacent counties of Connecticut and Massachusetts. The whole valuation of the State of New-York is about 365 millions; so that more than one-half of the interest of the state is immediately connected with the interest of the railway. If it should be said that the intermediate river towns ought not to be included, we answer, that they are necessarily dependent upon its operations in winter, and that it is also connected in some degree with the interests of every other portion of the state, and especially with its interior districts.

The above calculations are founded chiefly on the present amount of business. It should be remembered, they include nothing for the transportation of wood, coal, hay, animals of any sort, or daily supplies for the New-York market, nor for the transportation of the mails, although the railway would necessarily form a portion of the great mail route, not only from New-York to the eastern States, but from the same States to Albany and the great West.

But it may now be asked, is the route proposed for this railroad sufficiently practicable! What will be the cost of the work, and what its annual expenses when completed? Have railroad a decided superiority over other means of intercourse? And is not the construction of a long line of railroad through an agricultural or manufacturing country a hazardous enterprise? These are important questions, and deserve a satisfactory answer.

A considerable part of the route proposed for this railroad has been thoroughly examined and surveyed, for the location of the Sharon canal, and is known to be, for the most part, highly favorable in its character. During the past autumn, a committee was appointed to collect topographical information, in relation to the entire route, at the head of which was Benjamin Wright, Esq. a distinguished Civil Engineer, who, at a former period, had directed the canal surveys, and whose talent and experience, aided by an intimate acquaintance with that section of country, entitle his opinions to the fullest confidence. The report of this committee will be found annexed, and may be deemed a sufficient answer to the first inquiry, till the engineers of the company shall have decided on the specific location of the railway.

The *cost* of the railway must depend essentially upon the character of the route through which it is to pass, the nature of the obstacles to be overcome, the style or manner in which it may be constructed, and the practical intelligence of those to whose guidance its plans and operations may be committed. The Chesapeake and Delaware canal has cost an average of 161,600 dollars per mile. The Pennsylvania state canals about 28,000 dollars per mile; and some portions of the latter have cost 100,000 dollars per mile. The New-York State canals are admitted to have cost upwards of 22,000 dollars per mile. So of railways. The Liverpool and Manchester railway of 32 miles, has cost upwards of 800,000 pounds sterling. But if we deduct 50,000 pounds for Parliament and law expenses, 100,000 pounds for a tunnel of 1¼ miles under the town of Liverpool, a large amount for deep and extensive rock cutting—expensive viaducts of solid masonry—long and heavy embankments over deep morasses—and heavy disbursements for the sequestration of valuable lands—we shall reduce the cost to an amount by no means alarming. But with all this accumulated expense, and a limit of 10 per cent. profit, which is imposed by its charter, the stock of this railway continues steady at an advance of more than 100 per cent., and the business of the road is rapidly increasing. The first six miles of the Baltimore and Ohio railroad, graded in an expensive manner, on a difficult route, has cost an average of about 60,000 dollars a mile, while the greater part of the road to the Blue Ridge, and the portion which is to extend over the Alleghanies, is admitted to cost but little more than $20,000 a mile, completed with a double track. The various rail-roads in Pennsylvania are stated to have cost from $2,000 to 25,000 per mile. The railroad from Albany to Schenectady, owing to various causes will exceed, it is said, an average of 30,000 dollars per mile; while that from Schenectady to Saratoga, formed with a single set of tracks and including a portion of heavy work, will cost but little more than 9000 dollars per mile. The railroad from Charleston, S. C. to Augusta, Geo. a distance of 135 miles, which is now in a state of forwardness, it is said will cost 6,500 dollars a mile.

The Saratoga and Schenectady railway, will afford the best data from which to estimate the cost of the New-York and Albany road. Three-fourths of the route of the latter may, in the present state of our information, be deemed of easy construction; the remaining fourth as moderately difficult. The entire distance being supposed equal to 160 miles, we have 120 miles at 9000 dollars per mile, for a single track; and which, to cover contingencies, may be put at 10,000 dollars, amounting to 1,200,000 dollars. We have remaining 40 miles, at the supposed average of 15,000 dollars per mile, amounting to $600,000, making in the whole 1,800,000 dollars.

Those persons who are familiar with the history and progress of railroads in this country, will generally unite in the opinion, that in most cases it is not expedient to establish a double line of tracks until the use of a single track has been sufficiently productive to justify the additional expenditure. In the present case, however, the great importance of the road, and the known resources on which it can rely for support, will justify the adoption in the first instanee, of a grading and masonry adapted to a double set of tracks. This will probably increase the outlay at the rate of about 1,800 dollars per mile, equal to 288,000 dollars, which swells the cost to 2,088,000 dollars. To this may be added 212,000 dollars for locomotive engines, carriages, sheds, and the usual paraphanalia of a great carrying establishment; making a total amount of 2,300,000. The laying of a second set of tracks would probably require the balance of three millions of dollars; and to provide for such an enlargement of the work, or for any other emergency, this sum may be fixed as the amount of the capital. This sum is predicated on a scale of strict economy in the expenditure, and as a railway, considered in reference to the future growth of the country, is a progressive work, a larger capital may ultimately be employed. The annual interest on three millions, at 6 per cent. is $180,000.

The annual expenses of maintaining the establishment cannot be ascertained with certainty; but the experience which has been derived from the railroads in this country and in Europe affords a criterion by which these expenses may be safely estimated. We have seen that the estimated receipts for freight are stated at 422,616 dollars, on which it is usual to allow half for the expenses attending its transportation, which leaves 211,308 dollars as the nett product of this branch of the railway business. The estimate for passengers is 429,500 dollars, on which it is usual to allow 1-5 to 1-3 for expenses; but to cover all charges for oversights in our estimates, or for other unknown contingencies, and to make good any deficiency or excess of expenses which may possibly occur in the other branch of the estimates, we will appropriate half of the receipts for passengers to meet the expenses, which leaves for a nett product a moiety of the whole estimate, or 426,058 dollars. From this sum we will make a further deduction of 66,058 dollars for annual repairs, if the same be not covered by our previous liberal allowances, which leaves us a supposed annual surplus or profit of 360,000 dollars, being equal to a dividend of twelve per cent. on a capital of three millions.

In estimating the value of railroads it should be borno in mind, that a railway which produces a nett income or dividend of 6 per cent. in the first years of its operations, will be considered as good property, for the gradual increase of business which must ensue will increase the annual profits in a geometric ratio. In the mean time the proprietors are exempt from that universal, and often ruinous competition which stages, steamboats, and merchant vessels, are usually compelled to sustain. The railway is also perfectly adapted to any further improvements in the means of locomotion which may chance to be introduced, whilst its almost imperishable character is in striking contrast with the perishable nature of those vehicles which constitute the usual means of conveyance.

Still, doubts are often expressed of the real superiority of railroads over canals and other means of conveyance, and from sources that would seem entitled to respectful consideration. Without advancing more on this head, it is sufficient to say, that of two admitted advantages, among all others which have been named as pertaining to railroads, either is deemed sufficient to give a decided preponderance in their favor. The first of these advantages is celerity and despatch. Time is money, or rather is an element which necessarily enters into the esti-

mate of the cost or advantage of every transit which is made of person or property. The second, is that of free intercourse in adverse or inclement seasons of the year, when all other means of conveyance are embarrassed or interrupted.

We will add on this subject the testimony of one of the most cautious and experienced engineers in Great Britain, whose opportunities of forming correct opinions on this subject have not been surpassed by those of any other individual.

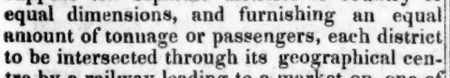
"The question that railways are fitted for the conveyance of general merchandize, has been decided in the most conclusive and practical manner. Being applicable at greater rates of speed than by any other mode, not only for the conveyance of passengers, but also for general merchandize, has affixed a value to railroads possessed by no other means of conveyance. Uniting the several qualities of being alike adapted for the transit of light and heavy goods, and the conveyance of passengers, will unquestionably lead to the substitution of railways for other modes, not possessing such properties, in all cases where the extent of traffic is such as to justify the out-lay of capital necessary for their construction."—(Wood on Railroads, 2d edition, 1831.)

There remains in concluding our inquiries, but one point to be examined. Is not the construction of a long line of railroad, through an agricultural or manufacturing country, an uncertain or hazardous enterprize?

It is often said that those railroads only can be profitable which are of moderate extent, and which unite great cities or thoroughfares, and the case of the Liverpool and Manchester Railroad is often referred to as a case in point. This idea or objection is by no means new. It was urged with great confidence against the construction of the Erie Canal, and ruin was confidently predicted to the finances of the state, should the legislature embark its interests in that mad adventure. The example of this canal may be referred to with more safety than that of the Liverpool Railway, and it proves that the true principles on which the success of these works depend have been mistaken by the objectors, and that, other things being equal, the success or profit of a line of canal or railway depends very much upon its extension, and that the value increases with the length in a geometric ratio. This matter is generally understood by our civil engineers, and it is admitted that in penetrating a secluded country, although the distant portions of the work may, if separately considered, fail to remunerate for their construction, yet the increased mileage of the remote trade on the more frequented portions of the work will more than compensate for the deficiency.

The importance of this view of the subject, and its bearing upon the interests of the proposed railway, which is to lead from the city of New-York towards the interior of our country in another direction,* induces a more specific examination of the question under review.

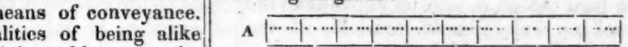
In order to give a correct illustration, we will suppose ten separate districts of country of equal dimensions, and furnishing an equal amount of tonnage or passengers, each district to be intersected through its geographical centre by a railway leading to a market on one of its borders, at the point *a*, as marked on the annexed diagram:



a a a a a a a a a a

We will, for the sake of numerical exactness, further suppose these districts to be each ten miles square, and the equal products or travel of each to be drawn to the several railways at points which shall average the mileage at that which is the common centre of each district. It is obvious that the average distance which the products will be carried on each railway, is five miles; and if the total amount of tonnage or passengers be 5,000 in each district, it will, at one dollar per ton or passenger for this distance, amount to 5,000 dollars. If we now take the aggregate of the ten railroads in the several districts, estimated by the same rule, the aggregate compensation or income for the 100 miles of railroad will amount to $50,000. This is a fair exhibition of the operation of railways in single isolated districts, each leading to its separate local market.

We will now examine the effect of a continuous railway through the same number of districts of like dimensions, and furnishing a like amount of tonnage or passengers, the entire length of railway being the same as before, but leading to a common market at the termination of the tier of districts, as at A. in the following diagram:



It is here evident, that the tonnage or passengers of each district will pass the same average number of miles in the district as in the former case, but mark the difference which follows. The tonnage of the district nearest to the market at A. will reach its destination in travelling an average of five miles from the common centre of the district; but the products of the second district, after travelling the same distance, must pass through the entire length of the first district, or an average distance of 15 miles, and the tonnage of the third district must pass in its turn 25 miles: and the same ratio of increase will apply to all the remaining districts, producing the following results:

				cost of transportation.
From 1st dis.	to	market	at A. estimated 5 miles,	$5,000
2d do.	do.	do.	15 do.	15,000
3d do.	do.	do.	25 do.	25,000
4th do.	do.	do.	35 do.	35,000
5th do.	do.	do.	45 do.	45,000
6th do.	do.	do.	55 do.	55,000
7th do.	do.	do.	65 do.	65,000
8th do.	do.	do.	75 do.	75,000
9th do.	do.	do.	85 do.	85,000
10th do.	do.	do.	95 do.	95,000
				$500,000

Thus it appears that the amount of income or compensation derived from the same amount of tonnage or passengers, from the same number of districts, on a continuous railway of the same aggregate extent, but leading through the several districts in succession to a common market, will amount to $500,000, being *ten times* the amount which the same business will afford on ten local railways of ten miles each, while from the more simple economy in the superintendance and management of the longer route, the aggregate expenses would be but little increased.

We find, therefore, that extended lines of communication, leading from great markets towards the interior, are by far the most profitable, especially in a country of such wide extent as our own, and it is only the converse of the objection that holds true, viz.: That *short* lines of railway or canal cannot be made profitable in this country, unless in uniting important cities or great lines of communication.

It is these obvious considerations which have given such value to the Erie Canal. Had this great work been restricted to one-fourth of its present length, in its extension from the Hudson, it would probably have remained an annual burden upon the finances of the state, instead of imparting, as it now does, happiness, wealth, enterprize, and confidence, throughout our widely extended and prosperous community.

The time will soon arrive when the subscriptions for the stock of the New-York and Albany Railroad will be open to the public. After the company shall have been organized, the surveys and other necessary arrangements for the final location and execution of the work will protract the time at which the directors will commence calling in the instalments for one or two years longer, and we may then expect to see the work in active progress. The Legislature of Massachusetts during its last session passed an act giving corporate powers for the construction of the railway or its branches in the county of Berkshire; and by connecting with the Harlæm Railroad, provision is already made for its extension into the heart of our great commercial city.

RAILROAD.—Extract from the log-book of a gentleman who left New-York on Thursday last for Baltimore. Left New-York at 6. 10, arrived at Amboy at 8. 21. Left Amboy at 8. 31, and arrived at Bordentown at 12. 8. Left at 12. 11, and arrived at Philadelphia at 2. 36. Left Philadelphia at 3. 16, arrived at New Castle at 6. 15. Left at 6. 21, and arrived at Frenchtown 7. 21. Left at 7. 53, and arrived at Baltimore at 12. 35. A considerable time lost in changing horses between Amboy and Bordentown. The distance from New Castle to Frenchtown, 16½ miles, which was performed in one hour, besides having made two stops on the route for the steam to go off *pish, pish*, at the cows, which were on the road. In one instance the boy who drove the cows was more frightened than the cattle: he ran one way and the cattle the other.—[Com. Adv.]

[*From the Frederick (Md.) Examiner, of 26th June.*]

RAILROAD AND CANAL.—Philip E. Thomas, Esq. President of the Railroad Company, and John Eaton, Esq. President of the Canal Company, accompanied by a committee of the Directors of each Company, visited the Point of Rocks, on Wednesday last, for the purpose of instituting measures to carry into effect the compromise for the passage of both works round the Point of Rocks. We have heard that the best disposition to accommodate all differences upon the subject was evinced, and that the two works will probably now progress in harmonious co-operation.

Rafts and Canal Navigation.—The great quantity of timber which is brought into the Erie canal, in rafts, by the opening of the Oswego and Cayuga and Seneca canals, has produced so much detention at the locks, during the press of business for several weeks since the opening of navigation, as to call for some effort to relieve this inconvenience hereafter, either by the construction of double locks, or such regulations as will induce the lumbermen to transport their rafts during the summer months, intermediate between the press of business on the canal in the spring and fall.

The attention of the public officers who have charge of the canals has been called to this subject, and we are authorized by the Comptroller to say, that the Canal Board, at an informal meeting on the 17th inst., took into consideration the transportation of timber in rafts on the Erie and Champlain canals, and the present rates of toll on lumber transported in that manner; and that such of the members of the board, as were present, entertain the opinion that some new regulations on this subject will the next year become indispensable. They are not now prepared to say what particular measure will be adopted; but it is not improbable that on timber transported in rafts during the spring and fall, when the canal is thronged with boats, the owners of rafts will be required to diminish the number of cribs in a ton, and to increase the number of hands, so that each crib shall be in the immediate custody of some person, and so managed as not unnecessarily to impede the navigation of boats; in addition to this the tolls on rafts navigating the canals in the spring and fall may be increased. In order to relieve the rafts from the effects of these restrictions, and to present the strongest inducements for their transportation during that part of the season when the canal is not crowded with boats, it is proposed to reduce the tolls on all rafts transported during three months in the middle of the season.

This notice is given in order that those who feel an interest in this subject may have timely notice of the probable change in the tolls and regulations, and may make their business arrangements with reference to those alterations.—[Albany Argus.]

MARKET FOR COCOONS.—The American Farmer states that a silk filature is about to be established in Baltimore, and that Mr. Hitchcock, proprietor of that paper, is authorised to purchase cocoons at twenty-five to fifty cents per pound, according to their quality.

* The New-York and Erie Railroad, through the northern line of counties.

A few Remarks on the Relation which subsists between a Machine and its Model. By Edward Sang, Teacher of Mathematics, Edinburgh.

At first sight, a well constructed model presents a perfect representation of the disposition and proportion of the parts of a machine, and of their mode of action.

Misled by the alluring appearance, one is apt, without entering minutely into the inquiry, also to suppose that the performance of a model is, in all cases, commensurate with that of the machine which it is formed to represent. Ignorant of the inaccuracy of such an idea, too many of our ablest mechanicians and best workmen waste their time and abilities on contrivances, which, though they perform well on the small scale, must, from their very nature, fail when enlarged. Were such people acquainted with the mode of computing the effects, or had they a knowledge of natural philosophy, sufficient to enable them to understand the basis on which such calculations are founded, we should see fewer crude and impracticable schemes prematurely thrust upon the attention of the public. This knowledge, however, they are too apt to regard as unimportant, or as difficult of attainment. They are startled by the absurd distinction which has been drawn between theory and practice, as if theory were other than a digest of the results of experience; or, if they overcome this prejudice, and resolve to dive into the arcana of philosophy, they are bewildered among names and signs, having begun the subject at the wrong end. That the attainment of such knowledge is attended with difficulty is certain, but it is with such difficulty only as can be overcome by properly directed application. It would be, indeed, preparing disappointment to buoy them up with the idea, that knowledge, even of the most trivial importance, can be acquired without labor. Yet it may not be altogether unuseful, for the sake both of those who are already, and of those who are not, acquainted with these principles, to point out the more prominent causes, on account of which the performance of no model can, on any occasion, be considered as representative of that of the machine. Such a notice will have the effect of directing the attention, at least, to this important subject. In the present state of the arts, the expense of constructing a full-sized instrument is, in almost every instance, beyond what its projector would feel inclined, or even be able, to incur. The formation of a model is thus universally resorted to, as a prelude to the attempt on the large scale. An inquiry, then, into the relation which a model bears to the perfect instrument, can hardly fail to carry along with it the advantage of forming a tolerable guide, in estimating the real benefit which a contrivance is likely to confer upon society.

In the following paper I propose to examine the effect of a change of scale on the strength and on the friction of machines, and, at the same time, to point out that adherence to the strictest principles which is apparent in all the works of nature, and of which I mean to avail myself in fortifying my argument.

Previous, however, to entering on the subject-proper, it must be remarked that, when we enlarge the scale according to which any instrument is constructed, its surface and its bulk are enlarged in much higher ratios. If, for example, the linear dimensions of an instrument be all doubled, its surface will be increased four, and its solidity eight-fold. Were the linear dimensions increased ten times, the superfices would be enlarged one hundred, and the solidity one thousand times. On these facts, the most important which geometry presents, my after-remarks are mostly to be founded.

All machines consist of moveable parts, sliding or turning on others, which are bound together by bands, or supported by props. To the frame work I shall first direct my attention.

In the case of a simple prop, destined to sustain the mere weight of some part of the machine, the strength is estimated at so many hundred weights per square inch of cross section. Suppose that, in the model, the strength of the prop is sufficient for double the load put on it, and let us examine the effect of an enlargement, ten-fold, of the scale according to which the instrument is constructed. By such an enlargement, the strength of the prop would be augmented 100 times; it would be able to bear 200 loads such as that of the model, but then the weight to be put on it would be 1000 times that of the small machine, so that the prop in the large machine would be able to bear only the fifth part of the load to be put on it. The machine, then, would fall to pieces by its own weight.

Here we have one example of the erroneous manner in which a model represents the performance of a large instrument. The supports of small objects ought clearly to be smaller in proportion than the supports of large ones. Architects, to be sure, are accustomed to enlarge and to reduce in proportion; but nature, whose structures possess infinitely more symmetry, beauty, and variety, than those of which art can boast, is content to change her proportions at each change of size. Let us conceive an animal having the proportions of an elephant and only the size of a mouse; not only would the limbs of such an animal be too strong for it, they would also be so unwieldy that it would have no chance among the more nimble and better proportioned creatures of that size. Reverse the process, and enlarge the mouse to the size of an elephant, and its limbs, totally unable to sustain the weight of its immense body, would scarcely have strength to disturb its position even when recumbent.

The very same remarks apply to that case in which the weight, instead of compressing, distends the support. The chains of Trinity Pier are computed to be able to bear nine times the load put on them. But if a similar structure were formed of ten times the linear dimensions, the strength of the new chain would be one hundred times the strength of that at Trinity, while the load put upon it would be one thousand times greater; so that the new structure would possess only nine-tenths of the strength necessary to support itself. Of how little importance, then, in bridge building, whether a model constructed on a scale of perhaps one to a hundred support its own weight! Yet, on such grounds, a proposition for throwing a bridge of two arches across the Forth, at Queensferry, was founded. Putting out of view the road-way and passengers altogether, the weight of the chain alone would have torn it to pieces. The larger species of spiders spin threads much thicker, in comparison with the thickness of their own bodies, than those spun by the smaller ones. And, as if sensible that the whole energies of their systems would be expended in the frequent reproduction of such massy webs, they choose the most secluded spots; while the smaller species, dreading no inconvenience from a frequent renewal of theirs, stretch them from branch to branch, and often from tree to tree. I have often been astonished at the prodigious lengths of these filaments, and have mused on the immense improvement which must take place in science, and in strength of materials too, ere we could, individually, undertake works of such comparative magnitude.

When a beam gives support laterally, its strength is proportioned to its breadth, and to the square of its depth conjointly. If, then, such a beam were enlarged ten times in each of its linear dimensions, its ability to sustain a weight placed at its extremity would, on account of the increased distance from the point of insertion, be only one hundred times augmented, but the load to be put upon it would be one thousand times greater; and thus, although the parts of the model be quite strong enough, we cannot thence conclude that those of the enlarged machine will be so.

It may thus be stated as a general principle, that, in similar machines, the strengths of the parts vary as the square, while the weights laid on them vary as the cube of the corresponding linear dimension.

This fact cannot be too firmly fixed in the minds of machine makers; it ought to be taken into consideration even on the smallest change of scale, as it will always conduce either to the sufficiency or to the economy of a structure. To enlarge or diminish the parts of a machine all in the same proportion, is to commit a deliberate blunder. Let us compare the wing of an insect with that of a bird: enlarge a midge till its whole weight be equal to that of the sea-eagle, and, great as that enlargement must be, its wing will scarcely have attained the thickness of writing paper; the falcon would feel rather awkward with wings of such tenuity. The wings of a bird, even when idle, form a conspicuous part of the whole animal; but there are insects which unfold, from beneath two scarcely perceived covers, wings many times more extensive than the whole surface of their bodies.

The larger animals are never supported laterally; their limbs are always in a position nearly vertical: as we descend in the scale of size the lateral support becomes more frequent, till we find whole tribes of insects resting on limbs laid almost horizontally. The slightest consideration will convince any one that lateral or horizontal limbs would be quite inadequate to support the weight of the larger animals. Conceive a spider to increase till his body weighed as much as that of a man, and then fancy one of us exhibiting feats of dexterity with such locomotive instruments as the spider would then possess!

The objects which I have hitherto compared have been remote, that the comparisons might be the more striking; but the same principles may be exhibited by the contrast of species the most nearly allied, or of individuals even of the same species. The larger species of spiders, for instance, rarely have their legs so much extended as the smaller ones; or, to take an example from the larger animals, the form of the Shetland poney is very different from that of the London dray horse.

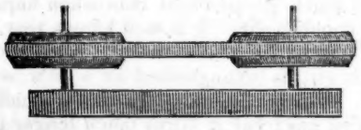
How interesting it is to compare the different animals, and to trace the gradual change of form which accompanies each increase of

size! In the smaller animals, the strength is, as it were, redundant, and there is room for the display of the most elaborate ornament. How complex or how beautiful are the myriads of insects which float in the air, or which cluster on the foliage! Gradually the larger of these become more simple in their structure, their ornaments less profuse. The structure of the birds is simpler and more uniform, that of the quadrupeds still more so. As we approach the larger quadrupeds, ornament, and then elegance, disappear. This is the law in the works of nature, and this ought to be the law among the works of art.

Among one class of animals, indeed, it may be said that this law is reversed. We have by no means a general classification of the fishes; but, among those with which we are acquainted, we do not perceive such a prodigious change of form. Here, however, the animal has not to support its own weight; and whatever increase may take place in the size of the animal, a like increase takes place in the buoyancy of the fluid in which it swims. Many of the smaller aquatic animals exhibit the utmost simplicity of structure; but we know too little of the nature of their functions to draw any useful conclusions from this fact.

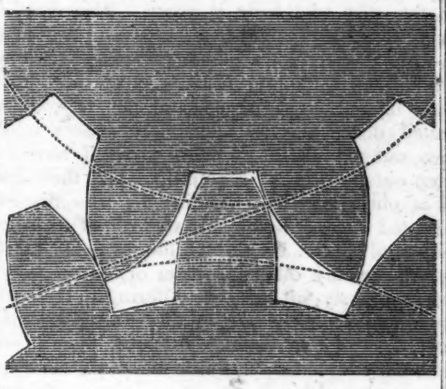
Of Wheel Work.—In treating of the simple mechanical power, called the wheel and axle, (see The Artisan, vol. i. p. 86), we stated that motion was communicated from one wheel to another, either by belts and straps passing over them, or by teeth cut in the circumference of each, and working in one another. We shall now enter a little more fully into the subject and endeavor to explain some of the most useful principles upon which this branch of practical mechanics depends, and also to point out the various methods of applying this mechanical power in the motion of different kinds of machinery.

Where a broad strap runs on a wheel, it is usually confined to its situation, not by causing the margin of the wheel to project, but, on the contrary, by making the middle prominent, as represented by the following wheel or pulley, on which a broad strap runs, the surface being convex; the wheel which drives it is of a similar form but its upper part only is shown in the figure.



The reason of the middle being made prominent may be understood by examining the manner in which a tight strap, running on a cone, would tend to run towards its thickest part. Sometimes also pins are fixed in the wheels, and admitted into perforations in the straps; a mode only practicable where the motion is slow and steady. A smooth motion may also be obtained, with considerable force, by forming the surfaces of the wheels into brushes of hair. More commonly, however, the circumferences of the contiguous wheels are formed into teeth, impelling each other, as with the extremities of so many levers, either exactly or nearly in the common direction of the circumferences; and sometimes an endless screw is substituted for one of the wheels.

In forming the teeth of wheels, it is of consequence to determine the curvature which will produce an equable communication of motion with the least possible friction. For the equable communication of motion, two methods have been recommended; one, that the lower part of the face of each tooth should be a straight line in the direction of the radius, and the upper, a portion of an epicycloid; that is, of a curve described by a point of a circle rolling on the wheel, of which the diameter must be half that of the opposite wheel; and in this case it is demonstrable, that the plane surface of each tooth will act on the curved surface of the opposite tooth, so as to produce an equable angular motion in both wheels: the other method is, to form all the surfaces into portions of the involutes of circles, or the curves described by the point of a thread which has been wound round the wheel while it is uncoiled; and this method appears to answer the purpose, in an easier and simpler manner than the former. The following figure represents the teeth, &c. of two wheels, formed into involutes of circles, described by uncoiling a thread from the dotted circles; the point of contact of the teeth being always in the straight line, which touches both circles.



It may be experimentally demonstrated, that an equable motion is produced by the action of these curves on each other; if we cut two boards into forms, terminated by them, divide the surfaces by lines into equal or proportional angular portions, and fix them on any two centres, we shall find that, as they revolve, whatever parts of the surfaces may be in contact, the corresponding lines will always meet each other.

Both of these methods may be derived from the general principle, that the teeth of the one wheel must be of such a form, that their outline may be described by the revolution of a curve upon a given circle, while the outline of the teeth of the other wheel is described by the same curve revolving within the circle. It has been supposed by some of the best officers, that the epicycloidal tooth has also the advantage of completely avoiding friction; this is, however, by no means true, and it is even impracticable to invent any form for the teeth of a wheel which will enable them to act on other teeth without friction. In order to diminish it as much as possible, the teeth must be as small and as numerous as is consistent with strength and durability; for the effect of friction always increases with the distance of the point of contact from the line joining the centres of the wheels. In calculating the quantity of the friction, the velocity with which the parts slide over each other has generally been taken for its measure; this is a slight inaccuracy of conception, for the actual resistance is not at all increased by increasing the relative velocity; but the effect of that resistance, in retarding the motion of the wheels, may be shown, from the general laws of mechanics, to be proportional to the relative velocity thus ascertained.

When it is possible to make one wheel act on teeth fixed in the concave surface of another, the friction may be thus diminished in the proportion of the difference of the diameters to their sum.

To ascertain the height of a steeple, tower, &c.—Take two sticks of any but equal length, and holding one perpendicular, place one end of the other against its centre, so as to form a right angle with it; having done this, place your eye at the other end, and advance towards, or recede from, the object the height of which you wish to ascertain, until the upper and lower ends of the perpendicular stick shall appear to touch its top and bottom at the same time; then, from the spot on which you stand, measure the distance to the foot of the object, and this will be its exact height.

Architecture.—Of the Orders of Architecture.

The moderns have applied the term order to those architectural forms with which the Greeks composed the façades of their temples.

The principal members of an order are, 1st, a platform; 2d, perpendicular supports; and 3d, a lintelling or covering connecting the tops of these supports, and crowning the edifice.

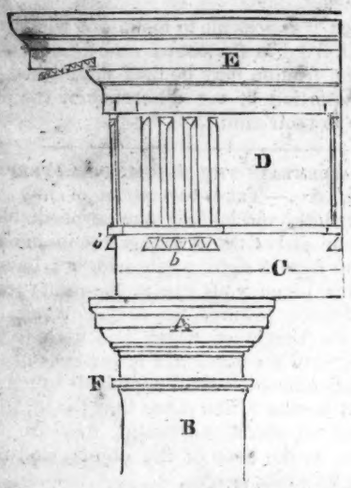
The proportioning of these parts to the edifice and to each other, and at the same time adapting characteristical decorations, constitutes an order, *canon*, or rule.

The principal member of an order is the perpendicular support or *column*. The accompaniments being subservient to this leading feature, the bottom of the column is fixed either on a general artificial platform, or each upon a particular *plinth*, or both. The lower part of the column, which rests upon the square plinth, is sometimes encompassed with mouldings, which, in allusion to their position, are, in conjunction with the plinth, called the *base*.

The top part of the column is also covered with a square plinth, with its sides straight or curved, and generally accompanied by circular mouldings or sculptured decorations upon the top part of the column, which is immediately underneath it; this, taken together, is called the capital. The body of the column, which reaches between the base and capital, is termed the *shaft:* it is the frustrum of a cone, with sometimes a plain surface, but frequently having perpendicular flutings, either meeting in an edge or leaving a small plane space between them. The lintelling or covering, which lies upon and connects the column, is termed the *Entablature*, and is sub-divided into three parts, named architrave, frieze, and cornice: the architrave consists of a mere lintel laid along the tops of the columns; the frieze represents the ends of the cross beams resting upon the former, and having the spaces between filled up, having mouldings also fixed to conceal the horizontal joint, and divide it from the architrave; and the upper member or cornice represents the project.

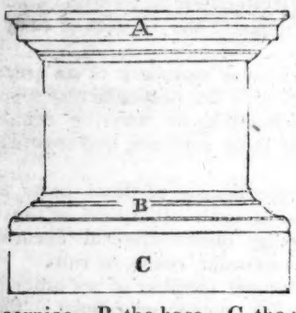
ing eaves of a Greek roof, showing the ends of the rafters.

These definitions will be easily understood by an inspection of the following figure:



A, the capital—B, shaft—C, architrave—D, frieze—E, cornice.

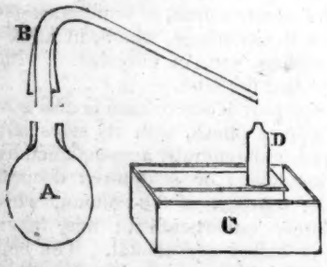
PEDESTAL.



A, the cornice—B, the base—C, the plinth.

History of Chemistry.

Of Oxygen Gas.—Oxygen gas may be obtained by the following process:

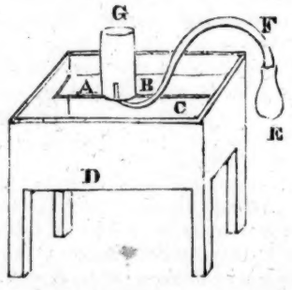


Procure an iron bottle of the shape A, and capable of holding rather more than an English pint. To the mouth of this bottle an iron tube bent like B is to be fitted by grinding. A gun-barrel deprived of its butt end answers the purpose very well. Into the bottle put any quantity of the black oxide of manganese* in powder; fix the iron tube into its mouth, and the joining must be air tight; then put the bottle into a common fire, and surround it on all sides with burning coals. The extremity of the tube must be plunged under the surface of the water with which the vessel C is filled.

This vessel may be of wood or japanned tin plate. It has a wooden shelf running along two of its sides, about three inches below the top, and an inch under the surface of the water. In one part of this shelf there is a slit, into which the extremity of the iron tube plunges. The heat of the fire expels the greatest part of the air contained in the bottle. It may be perceived bubbling up through the water of the vessel C from the extremity of the iron tube. At first the air bubbles come over in torrents; but after having continued for some time, they cease altogether.

Meanwhile the bottle is becoming gradually hotter. When it is obscurely red the air bubbles make their appearance again, and become more abundant as the heat increases. This is the signal for placing the glass jar D, open at the lower extremity, previously filled with water, so as to be exactly over the open end of the gun-barrel. The air bubbles ascend to the top of the glass jar D, and gradually displace all the water. The glass jar D then appears to be empty, but is in fact filled with air. It may be removed in the following manner: Slide it away a little from the gun-barrel, and then dipping any flat dish into the water below it, raise it on the dish and bear it away. The dish must be allowed to retain a quantity of water in it, to prevent the air from escaping. Another jar may then be filled with air in the same manner; and this process may be continued either till the manganese ceases to give out air, or till as many jars-full have been obtained as are required.* This method of obtaining and confining air was first invented by Dr. Mayou, and afterwards much improved by Dr. Hales. All the air obtained by this or any other process, or, to speak more properly, all the airs differing in their properties from the air of the atmosphere, have, in order to distinguish them from it, been called gasses; and this name we shall afterwards employ.†

Oxygen gas may also be obtained in a different manner, thus: Let D represent a



wooden trough, the inside of which is lined with lead or tinned copper; and let C be a cavity in the trough, which ought to be a foot deep. The trough is to be filled with water at least an inch above the shelf A B, which runs along the inside of it, about three inches from the top. In the body of the trough, which may be called the cistern, the jars destined to hold gas are to be filled with water, and then to be lifted, and placed inverted upon the shelf at B.

This trough, which was invented by Dr. Priestley, has been called by the French chemists the *pneumato-chemical*, or simply *pneumatic* apparatus, and is extremely useful in all experiments in which gasses are concerned. Into the glass vessel E put a quantity of black oxide of manganese in powder, and pour over it as much of that liquid which in commerce is called *oil of vitriol*, and in chemistry *sulphuric acid*, as is sufficient to form the whole into a thin paste; then insert into the mouth of the vessel the glass tube F, so closely that no air can escape except through the tube. This may be done either by grinding, or by covering the joining with a little glazier's putty, and then laying over it slips of bladder or linen dipped in glue, or in a mixture of the white of eggs and quick-lime. The whole must be made fast with cord.

The end of the tube F is then to be plunged into the pneumatic apparatus D, and the jar G, previously filled with water, to be placed over it on the shelf. The whole apparatus being fixed in that situation, the glass vessel E is to be heated by means of a lamp or candle. A quantity of oxygen gas rushes along the tube F, and fills the jar G. As soon as the jar is filled, it may be slid to another part of the shelf, and other jars substituted in its place, till as much gas has been obtained as is wanted. The last of these methods of obtaining oxygen gas was discovered by Scheele, the first by Dr. Priestley.

The gas obtained by the above processes was discovered by Dr. Priestley on the 1st of August, 1774, and called by him *dephlogisticated air*. Mr. Scheele, of Sweden, discovered it before 1777, without any previous knowledge of what Dr. Priestley had done: he gave it the name of *empyreal air*.* Condorcet gave it first the name of *vital air*; and Mr. Lavoisier afterwards called it *oxygen gas*: a name which is now generally received, and which we shall adopt.

1. Oxygen gas is colorless, and invisible like common air. Like it, too, it is elastic, and capable of indefinite expansion and compression.

2. If a lighted taper be let down into a phial filled with oxygen gas, it burns with such splendor that the eye can scarcely bear the glare of light, and at the same time produces a much greater heat than when burning in common air. It is well known that a candle put into a well closed jar, filled with common air, is extinguished in a few seconds. This is also the case with a candle in oxygen gas; but it burns much longer in an equal quantity of that gas than of common air.

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* This substance shall be afterwards described. It is now very well known in Britain, as it is in common use with bleachers, and several other manufacturers, from whom it may be easily procured.

* For a more exact description of this and similar apparatus, the reader is referred to Lavoisier's *Elements of Chemistry*, and Priestley *on Airs*; and above all, to Mr. Watt's description of a *pneumatic apparatus*, in Beddoe's *Considerations on Factitious Airs*.

† The word gas was first introduced into Chemistry by Van Helmont. He seems to have intended to denote by it every thing which is driven off from bodies in a state of vapors by heat.

* This process, by which the joinings of vessels are made air tight, is called *luting*, and the substances used for that purpose are called *lutes*. The lute most commonly used by chemists, when the vessels are exposed to heat, is a fat lute, made by beating together, in a mortar, fine clay and boiled linseed oil. Bees-wax, melted with about one eighth part of turpentine, answers very well, when the vessels are not exposed to heat. The accuracy of chemical experiments depends almost entirely in many cases upon securing the joinings properly with luting. The operation is always tedious; and some practice is necessary before one can succeed in luting accurately. Some very good directions are given by Lavoisier. See his *Elements*, Part iii. chap. 7. In many cases luting may be avoided altogether, by using glass vessels properly fitted to each other by grinding them with emery.

Sinking Wells.—Bishop Heber mentions a curious way of sinking wells in some parts of Asia. When the ground is sandy, a cylindrical tower of brick or stone work is made of the intended size of the well. This is suffered to remain until the masonry becomes indurated, and then it is gradually un-

dermined until it is sunk even with the surface of the ground. If the well is not sufficiently deep, they add more masonry, and again undermine.

Fire Proof Cement.—The French cement for the roofs of houses, to preserve the wood and protect it from fire, is made in the following manner:

Take as much lime as is usual in making a pot full of whitewash, and let it be mixed in a pail full of water; in this put two and a half pounds of brown sugar, and three pounds of fine salt; mix them well together, and the cement is completed. A little lampblack, yellow ochre, or other coloring commodity, may be introduced to change the color of the cement, to please the fancy of those who use it. It has been used with great success, and been recommended particularly as a protection against fire. Small sparks of fire, that frequently lodge on the roofs of houses, are prevented by this cement from burning the shingles. So cheap and valuable a precaution against the destructive element ought not to pass untried. Those who wish to be better satisfied of its utility can easily make the experiment, by using on a small temporary building—or it may be tried by shingles put together for the purpose, and then exposed to the fire.

Water Color for Rooms.—Take a quantity of potatoes and boil them; then bruise and pour boiling water upon them until a pretty thick mixture is obtained, which is to be passed through a sieve. With boiling water then make a thick mixture of whitening, and put it to the potato mixture. To give color, if white is not wanted, add different colored ochres, lampblack, &c. according to circumstances. This paint dries quickly, is very durable, has a good appearance to the eye, and is moreover very cheap.—[London Paper.]

Hamilton's Patent Sawing and Boring Machine.—We have experienced much gratification in examining this useful labor-saving machine; and we are perfectly satisfied that it is destined to be of great public utility in cheapening the price of those articles which are in use by all classes of society, and will at the same time be a source of great profit to the ingenious mechanic who has invented it. We have no means of ascertaining the precise amount of labor and expense which this machine will save, but we venture to hazard the opinion that a man and two apprentices will accomplish more in *twelve* hours than *forty* experienced journeymen can accomplish at the same work during the same period of time. It is withal one of those inventions which require no extraneous aid to bring it into immediate usefulness. The proprietor has commenced working it daily, and in a ware-room adjoining the machine he offers for sale its produce at from thirty to fifty per cent. less than the market price. This simple fact and the certainty that the work is in all its parts more perfect than that manufactured by hand, has produced a demand more than equal to the supply.

The machine is admirably well adapted to any sort of sawing that is usually done by hand or cross-cut sawing. Tenons, mitre-joints, &c. are cut with the greatest precision. In all sorts of pannel work and small framing it will be very useful. It is peculiarly adapted to sawing regular and eccentric circles, such as felloes for wheels, chair tops, seats, legs, and backs, and circular blocks for brushes; and it saws chair tops and seats with great accuracy on a bevel. Each segment of a wheel is cut its proper length and proper inclination for the joint—the holes are bored for the dowels and spokes, and the hubs are bored on a principle entirely new, making every spoke stand with the greatest exactness from the centre to the extreme of the circle. The machine is perfectly simple in its construction, not liable to get out of repair, and easy to manage and understand. A few hours' acquaintance with it will enable any one, whether mechanic or otherwise, to operate on it as well as the inventor. It is only six feet square, and is propelled by a steam engine of two-horse power.

A part of the principle of the same machine is applied to a small portable frame, and used for sawing wood for the fire with astonishing rapidity.—[Courier & Enq.]

Facts in Physics.—Gold beaters, by hammering, reduce gold to leaves so thin that 282,000 must be laid on each other to produce the thickness of an inch. They are so thin, that, if formed into a book, 1500 would occupy the space of a single leaf of common paper.

One pint of water converted into steam fills a space of nearly 2000 pints, and raises the piston of a steam engine with a force of many thousand pounds. It may afterwards be condensed and re-appear as a pint of water.

On the New-York and Erie Railroad. By J. L. Sullivan. [For the American Railroad Journal.]

To the Editor,—It appears to the undersigned that the article in your last number failed to do justice to the great subject of the Railroad from this city to Lake Erie, in some respects. I subjoin a short specification of an improvement in forming the least expensive railway durably.

Permit me to suppose that there is a railroad proceeding from the heart of this city north to Harlaem; that a branch there inclines by Harlaem Valley to the North River, and follows its shore to a crossing to Sloat, in Rockland.

The passage across in winter time can be kept open for steam railway deck ferry-boats, by an application of machinery that I can satisfactorily explain, to break the ice and keep a canal through it open. After reaching Ramapo the route is a gradual ascent of this valley at 12 feet m the mile, to Chester and Florida, 24 miles. From thence, crossing the outlet of the drowned lands, the route gradually ascends to Deer Park Gap, and descends to and crosses the Hudson and Delaware canal; from whence the line follows up the Delaware shore at a gradual ascent to Deposit, where it is nearest the Susquehanna.

By this route it takes up the coal trade at the mouth of Lackawana branch, and carries it to the west, and in the four or five months of winter brings it to this city.

It is evident that no railroad ought to be undertaken unless it will give immediately an ample revenue to stockholders, unless by the State. By this plan (without preventing a branch to the centre of Sullivan county,) a communication will be had with the Susquehanna, also at the junction of the Lackawana, and I know the ground is favorable; and by thus reaching the Upper Delaware and the Upper Susquehanna, so many sources of business are opened that it would be worth while to make it, if it went no further. But now every section will add business, and when the route reaches the head of Alleghany river, the Blanchard steamboats will run from Hamilton to Pittsburg, and at low water to Cincinnati; and the continuation of the road to the Lake opens the trade of the coast of all these inland seas.

The article alluded to speaking of the durability of cheap railroads, I give this explanation of my ideas of the means in 1829, and have since made some improvement thereon, though preferring durable works where they can be afforded. J. L. S.

"Specification of an improvement or combination in the art of constructing Railroads, whereby timber employed therein may be increased in durability, viz.:

"In making railroads with timber, the posts or piles are liable to decay earliest at the surface, or a little above and below the surface of the ground, because the effect of heat and moisture there combine.

"To guard the post from this effect, I prevent the contact of earth with this part by means of stone laid close around it; and to keep the rain out from among them, I set them in water-lime-mortar, or in Roman cement, applying it to the wood as well as stones: I also use sometimes, in the upper stratum especially, a cement made of pitch and lime, when the kind of timber is congenial, pitch being adhesive and lime indestructible. In this manner may be used the fragments of the quarry and coarse gravel, to form an artificial rock, surrounding precisely that part which is naturally most exposed to the causes of early decay. The stone keeps the wood cool, the cement keeps it dry.

Again: when the bearing rail is of timber, surmounted with iron plate, the wood is liable to become heated under the iron from the effects of the sun's rays thereon, and to shrink, and the iron rail may be thus loosened, and any composition applied for the purpose of protecting the surface of the timber from sun and rain, may be liable to be worn away by the movement or action of the iron rail under passing pressure. In order to prevent this and to give the iron rail firmness in place and bearing, I give the surface on which it rests the faculty of solid resistance to the pressure of the iron rail, by driving into the wood at least two rows of small nails evenly, their size from one to two inches long, and distance apart according to the weight of load, say about one inch, giving all the nails relative level very near the surface of the bearer. And as the percussion by which nails are driven is a much greater force than the passing pressure of loads, this pressure will not settle the nails deeper in the wood, but they resist it effectually, and prevent the compression of the surface, and the displacement of any defensive composition, as pitch and lime, that may have been applied under the iron plate rail, which will have been drawn firmly into contact with the heads of the nails, by means of the screw bolts and nuts, with which it is fixed on, passing through the timber. A railroad thus constructed is guarded effectually against the working or yielding so prejudicial to durability and good operation.

"And I consider the principle of this improvement as aforesaid to be the combination of water-lime (or Roman) cemented stones surrounding posts or piles, and the nailing the top or bearing surface of timber for effective hardness with railroads."

J. L. Sullivan.

"Philadelphia, April 17, 1829."

NEW-YORK AMERICAN.

JUNE 29, JULY 1, 2, 3, 5—1833.

LITERARY NOTICES.

THE AMERICAN QUARTERLY REVIEW, No. XXVI.; *Philadelphia*, CAREY, LEA & BLANCHARD.—We adverted some time ago to the first paper in this number of the Quarterly, on *Froissart and his Times*, and now propose to call attention to the general merits of the whole. The admirers of chivalry, who see only the romance of the institution, and stop not to reason on the almost barbarian state of society, which the very existence of such an institution implies, will be little gratified, though they may be usefully impressed, by the paper on Froissart, and Mr. Barry St. Leger's just estimate of feudal times, and fetes, and tournaments, and oppressions and ferocities. Art. II, on the Army of the United States, does justice to the gallant little band which passes under that large sounding name, and is right—completely right as it seems to us—in the stand taken in behalf of the preservation of brevet rank. There is a fact stated in this paper worthy of being recalled here; for, though extensively published we believe at the time, it may not be remembered. It is that of the celerity with which, last summer, on the breaking out of the Indian war, troops were transported from the maritime to the inland frontier. The companies ordered from Old Point Comfort to Mackinaw, accomplished the distance, 1800 miles by the route taken, in 18 days. The military importance of such celerity of movement cannot fail to be appreciated at home and abroad. Art. III, is dedicated to *Captain Morrell's Voyages*, of which it furnishes an abstract, doing justice to the enterprize of the navigator, and lamenting, as we have done before, the unnecessary bulk of the volume. Art. IV is upon fortifications and sieges, and especially the late siege of Antwerp. Art. V reviews justly and favorably Prof. Dunglisson's *Physiology*. Art. VI presents a most attractive notice of what has always seemed to us a most attractive life, that of Sir Humphrey Davy. The great paper, however, of this number, which has so many good ones, is that upon Slavery, and to it we must devote the remainder of this notice.

The momentous topic of Slavery is here treated as a practical, and not an abstract question;—the thing as it is, and not as it should be, is grappled with; and the results at which the writer arrives, as well as the course of his argument, while denoting much personal experience and observation among a slave population, are such as both to encourage and to justify confidence in the ultimate and sure, though probably distant and very gradual, extinction of the evil. Slavery, as at present existing in the United States, is treated as a necessary evil, its endurance for a time as unavoidable, and immediate emancipation as impracticable, and never to be attempted, except through and with the full concurrence of the slave-holder. Mean time—as in a nation, of which one-sixth of the whole population is in a state of slavery, no citizen can stand aloof and declare himself indifferent to the fate, or treatment, or influence, for good or evil, of this portion,—much is to be done towards hastening and adequately preparing all parties for the entire eventual removal of slavery. The means to be relied on for this end, as stated with earnestness and ability in the paper under notice, are—1st, *free discussion*—not only in the North, but in the South; 2dly, *religious instruction*—which, in order to avoid the objections of masters to having their slaves taught to read or write—should be oral, and above all, should be conducted by those who, taking the civil condition of the slave as they find it, and leaving it to be ameliorated by those to whom it solely belongs to act in the matter, will confine themselves to his spiritual wants; 3dly, the *Colonization Society*: and 4thly, the *abolition of Slavery in the District of Columbia*. Each of these propositions is developed with considerable detail, and sustained by an array of reason and authorities that cannot be lightly regarded. We wish that this paper may be extensively read at the North and at the South—in the one, that its calm, practical good sense may serve to check the blind zeal of fanaticism—in the other, that the true state of the case, as to the inevitable and irresistible necessity of eventual abolition may be perceived—and that timely measures may in consequence be taken to render that abolition innocuous.

BIBLIOTHEQUE CHOISIE DE LITERATURE FRANCAISE, No. I; Philadelphia, CAREY, LEA & BLANCHARD.

THE SAME, by *Adam Waldie*, Philadelphia.

Here we have two semi-monthly publications under the same title, devoted to the same object—a dissemination, at a cheap rate, of a knowledge of the French language and current literature. We hope both may succeed, especially if—as in the numbers before us—each takes different subjects. We are bound to say, however, that of these two, that of Carey, Lea & Blanchard is to be preferred for its selections. *Les Ecorcheurs*, by M. D'Arlincourt is a sort of historical satire; which, by recalling and adapting to existing circumstances incidents long past, ridicules present men and times without any offence to modesty. The story of *Notre Dame de Paris*, by Victor Hugo, which Waldie has chosen, seems to us, as far as it goes, and we only know it by that part published in this specimen number, to be somewhat *leste*, as the French say—that is, not quite fit for the instruction of young gentlemen and ladies. Waldie's, however, is beautifully printed, and in that has a superiority over its competitor. With due care in the selections to be made, we cannot doubt the success of such publications.

THE FARMER'S REGISTER, by EDMUND RUFFIN, Richmond, Va.; T. H. White.—This is the first No. of a monthly publication just started in Virginia, and to be devoted mainly to the improvement of the practice, and the support of the interests of agriculture. It is well got up, and it will be a reproach to the intelligence and public spirit of Virginian planters, if it be not well sustained. As intimately connected with the agriculture of that State, this number, under the head of "Agricultural Review," affords a large space to quotations from two papers on the subject of slavery, originally published in the American Quarterly. The first of these papers, by Prof. Dew, looks at slavery as irremediable, and all the efforts for the emancipation and removal of the African race as visionary—the other, by Mr. Harrison, proves indisputably that the existence of slavery in Virginia is a great and growing evil. From such conflict of opinions truth must come at last.

THE BUCCANEER, a Tale, by MRS. S. C. HALL, author of Sketches of Irish Character; 2 vols.; *Philadelphia*, CAREY, LEA & BLANCHARD.—The very spirited sketches of Irish Character, which we have heretofore received from Mrs. Hall, are well emulated in the stirring incidents of the time of the Commonwealth, upon which these volumes are founded. The character of the Protector, and that of Hugh Dalton, the Buccaneer, are drawn with much talent; and the interest of the tale is strong and well sustained throughout.

TALES AND NOVELS OF MARIA EDGEWORTH, uniform edition, vol. V; N. YORK, J. & J. HARPER.—This volume printed with equal excellence with those which preceded it, contains the *Absentee*, *Mde. de Fleury*, *Emilie de Coulanges*, and the *Modern*

TOUR OF THE WANDERING PIPER, written by himself, and printed by *N. J. Little*, Portland, Me., purports to describe the wanderings of this personage through part of Scotland and Ireland. If his skill on the bagpipes do not exceed that with which he handles the pen, his music must be indifferent bad.

LUTHER, AND THE LUTHERAN REFORMATION: by John Scott, A. M. 2 vols. Harpers.—This history of the great Reformer and his times, forms No. III of the Theological Library, now republishing by the Messrs. Harpers. It is avowedly derived from the Church History of Joseph Milner and his cotemporaries; but though much abridged by compressing the mass of documentary evidence, and curtailing and pruning away much subordinate matter, we could have wished, in the prevailing taste for small books, that the Life of Luther had been given in a still more condensed form. The value of the work would have indeed been much lessened for its graver readers; but the chances of its general perusal greatly increased. Still, in its present shape, the publication is highly acceptable, and, though stamped rather strongly with sectarian feelings, for the severe impartiality of history in its most dignified forms, it embodies a mass of curious theological information that will recommend it to lay as well as clerical readers. We have selected for extract the account of the last illness and death of Luther, as one of the most interesting passages in the whole work. *

He left Wittemberg on the 23d of January, accompanied by his three sons. The weather was inclement, and he was detained three days at Halle, by the rising of the river, which he was obliged to cross in a boat, not without some danger. During his stay at Halle he preached for Justus Jonas, who had been superintendent there since the reformation of the place in 1539, and who attended him the remainder of his journey. On his arrival on their borders, the Counts of Mansfeldt received him with an escort of more than a hundred horse—treating him as the Elector of Saxony's ambassador. He was extremely weak, and seemed near death when he reached the residence of Count Albert, on the 28th of January; but medicine, friction, warmth, and other means of resuscitation revived him. He lost no time in entering upon the business which had brought him thither, and labored indefatigably in the despatch of it for three weeks together; being assisted by Wolfgang Prince of Anhalt, Count Swartzburg, and others; but his success was not such as he could have wished, though other points, relating to the ecclesiastical affairs of the country, were brought to some satisfactory conclusion.

In the mean while his health was declining. Some time before, he had a seton or issue opened in his leg, which had been the means of so much relieving his head, that he had been able to walk to church and to the lecture-room, and to mount the pulpit; whereas previously he was obliged to be conveyed in a carriage, and often could only address his family at home. But, on leaving Wittemberg for Eisleben, he had failed to take with him the applications used for keeping up the discharge, and amid the pressure of his present engagements this relief was neglected, which proved of bad consequence.

Thus matters proceeded till the 17th of February, Luther at all times applying himself to business, eating and sleeping well, and being very cheerful in his conversation. On that day, his friends perceiving more repose to be desirable for him, persuaded him to keep quiet in his study, which he did, frequently walking up and down, in an undress, but conversing with animation. "From time to time," says Justus Jonas, "he would stop, and looking out at the window, in that attitude (as his custom was) address fervent prayers to God, so that I and Cœlius, who were in the room with him, could not but perceive it; and then he would say, 'I was born and baptized here at Eisleben, what if I should remain or even die here?'"

Though, however, Luther passed the day in his study, he did not choose to sup there, but in the large dining room, observing, that "to be solitary did not help the spirits." During supper, he quoted and made observations on many interesting passages of Scripture. The conversation also happening to turn on the question, whether the righteous in a future state of blessedness would recognize those who had been their friends on earth, he gave his opinion decidedly in the affirmative. In the course of more ordinary conversation, he remarked, "If I can but establish peace among the counts, the rulers of my country, I will then go home, lay myself down in my coffin, and give my body for food to the worms."

Before supper he had complained of a pain in the chest, to which he was subject. It was, however, relieved by warm applications. After supper it re-

turned, but he would not have medical aid called in, but about nine o'clock lay down on a couch and fell asleep. He awoke as the clock struck ten, and desired that those about him would retire to rest.—When led into his chamber he said, "I go to rest with God;" and repeated the words of the Psalm, "Into thy hands I commend my spirit;" and stretching out his hand to bid all good night, he added, "Pray for the cause of God!" He then went to bed, but about one o'clock he awoke Jonas and another who slept in the room with him, desired that a fire might be made in his study, and exclaimed, "Oh! God! how ill I am! I suffer dreadful oppression in my chest; I shall certainly die at Eisleben!" He then removed into his study without requiring assistance, and again repeating, "Into thy hands I commend my spirit!" He walked backwards and forwards, and desired to have warm clothes brought him. In the mean time his physicians were sent for, as also Count Albert, who presently came with his countess. All Luther's friends and his sons were now collected about him, medicines were given him, and he seemed somewhat relieved, and having lain down on a couch he fell into a perspiration. This gave encouragement to some present, but he said, "It is a cold sweat, the forerunner of death; I shall yield up my spirit." He then began to pray, nearly in these words, "O eternal and merciful God, my Heavenly Father, Father of our Lord Jesus Christ, and God of all consolation! I thank thee that thou hast revealed to me thy son Jesus Christ, in whom I have believed, whom I have preached, whom I have confessed, whom I love and worship as my dear Savior and Redeemer, whom the pope and the multitude of the ungodly do persecute, revile and blaspheme. I beseech thee, my Lord Jesus Christ, receive my soul! O Heavenly Father, though I be snatched out of this life, though I must now lay down this body, yet know I assuredly that I shall dwell with thee forever, and that none can pluck me out of thy hands!" He then thrice again repeated the words, "Into thy hands I commend my spirit; thou hast redeemed me, O Lord God of truth!" Also those words, "God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life;" and that verse of the lxviiith Psalm, "Our God is the God of whom cometh salvation; God is the Lord by whom we escape death." He then became silent, and his powers began to fail him; but when several present addressed him, "Reverend father, you die in the constant confession of Christ and his doctrine, which you have preached?" he distinctly answered, "Yes," and spoke no more; but about a quarter of an hour afterward, between two and three o'clock of the morning of February 18, "with his hands clasped together, and without a finger or a feature being disturbed, he breathed his last."

Such is the account which Justus Jonas wrote to the Elector of Saxony, by the hand of Count Albert's secretary, within half an hour after Luther's death; except that in a few passages some things are supplied from the fuller narrative which was drawn up for insertion in Luther's German works, and authenticated by the signatures of Justus Jonas, Superintendent of Halle, and formerly rector of the university of Wittemberg, Michael Cœlius, Pastor of Eisleben, and John Aurifaber, chaplain to the Elector of Saxony; all of whom were present with Luther to the last.

History of the Florentine Republic, and of the Age and Rule of the Medici; by Lorenzo L. Da Ponte, Professor of Italian Literature in the University of the city of New York. 2 vols. 12mo *Collins & Hannay.*—These long expected volumes, whose preparation we mentioned some months since, have at length appeared—their author having found time, though employed simultaneously in several other laborious literary undertakings, to complete a task, to which, from talents, parentage and education, he was peculiarly fitted. In our present notice we can do little more than say, that the expectation of the author's friends will hardly be disappointed in his labors, and add a specimen of them below; taking a subsequent opportunity to give the work that particular examination to which, both from its intrinsic merit and as an original American publication, it is justly entitled. *

The Plague in Florence.

In the sufferings of this calamity the Florentines looked not to its ulterior effects, and the desolation of distant countries excited no sympathy among a people groaning and fainting beneath the severity of their own miseries. In Egypt, in Ethiopia, and under the distant mountains of Asia, innumerable masses of a dense population were falling under the baleful influence of a malady, which, undefined in its peculiar characteristics, has addressed itself to the imagination of men with aggravated terrors under name of *the Plague.*

In each place in which its awful visitation was made, it had assumed a modified character; but every modification had been, or had seemed to be, an augmentation of horrors. In many instances, a slight or sudden hæmorrhage was the only and the instaneous forerunner of the stroke of death; and frequently a case of this kind was the first indication to a populous city of the presence of that scourge, which was, in the course of a few hours, to decimate its population, and convert every mansion within its circuit into a house of mourning.

Scarcely had Florence recovered in part from the horrors of famine, while her citizens were still enfeebled and reduced by the scanty and unwholesome food upon which they had been compelled to feed, when the news of the arrival of the Asiatic scourge upon the shores of the Mediterranean awoke them to the dreadful anticipation of a still more devastating visitation. To the anticipation quickly succeeded the miserable reality; the gorgeous cities of the east had been clothed in mourning by its desolating progress, and all the west had received the poison, in the winds that seemed now freighted with contagion in every blast. For a moment the populace, horror-stricken, betook themselves to the ordering of their lives, and to the making preparation for death; to sumptuous living succeeded an abstemiousness which had been scarcely known to the famine itself; but in a moment, as it were, convinced, by the increasing virulence of the pestilence, that all preventives were vain, an unbridled dissoluteness and libertinage broke out as desperate as the desolating plague. The ties of kindred were severed; the mother beheld her infant perish, and never cared to place its lifeless form in sorrow on the bier; and the rude jests and ribaldry of the carriers of the dead were never checked by the presence of grief or by the appearance of mourning for the departed. The sick were left to perish; the fear of contagion had silenced the voice of nature; and the names of father, husband, wife, and child, having lost all moral influence, were now never pronounced, except when some neglected and deserted sufferer breathed them out with imprecations amidst the agonies of death.

It is impossible, in the varying accounts which have come down to us, to say what was really the mortality occasioned by this plague to Florence; but those who have observed the devastations of the recent pestilence, which, from the same birth-place, has extended itself over the earth, may estimate its effect in an age when the passions of men and the character of the times must have rendered them doubly susceptible to any epidemic influence; and when the healing art could hardly have attained the dignity or certainty of a science. We may not believe that 100,000 persons in Florence alone fell victims to the violence of the disease; but, as an illustrious historian has observed, the very exaggeration is proof of the extent of the mortality, and of the profound impression which it had left upon the minds of men. Among the victims, was one from whom we might have expected a full and simply eloquent account of its ravages, and in whom, indeed, we have found the principal authority for the preceding portions of our history. Humanity may feel for the sufferings of mankind even in distant ages, and the loss of human life may excite its sympathy; but literature laments the loss of one of its earliest ornaments more than the crowd of the vulgar, however the great and high-born may appear in the catalogue, and the votaries of intellectual worth select from the general ruin and embalm the name of Villani. The chronicle which this author has left of the early affairs of the Florentine people, written with the simplicity adapted to the character of the people and the times, remains to the present day a monument of the genius of its author, and sets forth in its style, even more than its faithful narration of facts, the history of the writer's life and times. It contains an account of the beginning of that pestilence in which Villani lost his life.

Chronology, or an Introduction and Index to Universal History, Biography, and Useful Knowledge. New York: *Jonathan Leavitt*, Broadway. Boston: *Crocker & Brewster.* 1 vol. 12mo.—A good work on Chronology, in a portable shape, has always been a great desideratum. The great works, in a quarto form, (though, from the charts they contain, invaluable for reference in a library) are too large, and of course of too costly a character for general use; while the more ordinary books are commonly too small and meagre for useful reference. The elegantly printed duodecimo before us seems exactly to supply what was so much wanted; and its lucid and happy arrangement, with the great variety of historical facts embraced in it, will make the work well received by all who take the pains to examine it for themselves. The introduction of a variety of types, each of its kind being appropriate to particular classes of objects and occurrences, is well calculated to assist one seeking for any distinguished character or peculiar event, while the several divisions of the work are so well adjusted, that the task of reference can be accomplished in a moment. Thus, if we wish to know in what period any individual flourished, what was his nation and profession, and who were his contemporaries, we refer to his name in the biographical table; and then turning to the literary chronology and to the chronological table, where his actions generally are recorded, we have in a few words the history of the man, and of the times in which he flourished. Of how great an assistance this must be to the student of general history, a better idea can hardly be given than in the language of Dr. Priestley where he speaks of a good system of Chronology as being one of the most efficient contrivances to make an entire course of history easily comprehended, while a proper distinction is at the same time observed between its parts—giving at the same time exact views of the condition of separate countries, with a general knowledge of the world at large—and enabling you to estimate the civilized state of one clime, while you contrast it with the barbarous lands around it. *

Life of Bishop Hobart.—We are gratified in being authorized to state, that Dr. Berrian's Life of this lamented prelate, which will complete the proposed edition of his posthumous works in three volumes, is finished, and will be ready for delivery to subcribers and others, in 2 or 3 weeks.—[(Auh.) Gosp. Mess.]

FOREIGN INTELLIGENCE.

Latest from Europe.—By the packet ships Philadelphia, Capt. Chapman, from London, and Silas Richards, Capt. Bursley, from Liverpool, we have papers of those places to the 23d and 24th of May.

The affairs of Don Pedro are spoken of favorably, though no important event has occurred.

The most material occurrence in England, was the tremendous meeting at Birmingham, the particulars of which are noticed below.

The North American Colonial Association had a conference with Secretary Stanley on the 20th ult.

The jury in the case of "Cully," the police officer stabbed in the late riot, had brought in a verdict of "*justifiable homicide*," in the following words:—"We find a verdict of Justifiable Homicide on these grounds: that no riot act was read, nor any proclamation advising the people to disperse; that the government did not take the proper precautions to prevent the meeting from assembling, and that the conduct of the police was ferocious, brutal, and unprovoked by the people, and we moreover express an anxious hope that the government will in future take better precautions to prevent the recurrence of such disgraceful transactions in the metropolis." The meeting near Birmingham, was attended by seventy or eighty thousand persons, who conducted themseves peaceably, and adopted an address to the King and to Parliament. The news from the Continent is not so late by two days as that by the Henri IV. It was expected that Parliament would soon be prorogued. Nothing very important was before that body on the 19th and 20th.

The Royal assent was given to the Cotton duties reduction bill, on the 17th.

Mr. E. J. Littleton, member of the House of Commons for the Southern division of Staffordshire, has been appointed Chief Secretary for Ireland.

On the subject of negro emancipation, Lord Althorp stated in the H. of Commons, that ministers were determined to proceed with the question with all possible despatch.

Corn Laws.—On the 18th, Mr. Whitmore brought forward his promised motion, declaring in effect, that instead of producing any permanent good, the present Corn Laws had tended to cramp trade. The question being taken on going into the consideration of this motion, it was rejected by a majority of 99. Lord Althorp resisted the motion, on the ground that there was not now time to agitate the subject—at the same time he was by no means an advocate of the present corn laws, and thought that the land owners and farmers ought not to adhere to them.

An early prorogation of Parliament was said to pe resolved on by ministers.

The English Money Market was steady all the morning of the 21st—Consols 87 1-2 to 88.

Mr. Kean died at Richmond on the 15th.

London, May 22d.—*Holland and Belgium.*—A preliminary treaty was yesterday signed by the Plenipotentiaries of Great Britain, France and Holland, which, so far as it goes, will give great satisfaction to the commercial world, as well as to a great number of line-and-rule political thinkers, who deem a rupture with Holland to be uncongenial with the spirit of our national history. The treaty consists of six articles, by the first of which the English and French embargoes will be taken off the respective ports of each nation, and the consequent measures in interruption of the navigation by the Dutch nation will be removed. 2. The intercourse between the respective parties will assume the same posture as before the French expedition in November last, and the services of the French and English squadrons be dispensed with. 3. The Dutch garrison of Antwerp prisoners of war will be sent home. 4. The armistice between Holland and Belgium will be continued till the settlement of a permanent separation. 5. The navigation of the Scheldt will in the mean time remain free. 6. The navigation of the Meuse during the same period will be open, subject to the tariff settled by the treaty of Mayence.

[*From the London Traveller of May* 21.]

The great Birmingham Meeting, at Newhall Hill, took place yesterday, according to Mr. Atwood's letter of summons to the field. Upwards of 80,000 persons were present on this occasion, the number of those who attended the grand meeting on the same spot last May. We have not space to give the detailed report this evening, but must content our readers with a brief notice of the event. The immense concourse was addressed at length by Mr. T. Atwood, Mr. O'Connell, Mr. Muntz and Mr. B. Hadley. Various resolutions were put, and carried unanimously, condemnatory of the conduct of His Majesty's Ministers, who had betrayed the confidence of the people, and turned their sanguine hopes into despair. A petition to the King, praying his Majesty to dismiss his present Ministers, was also agreed to without a dissentient voice. Other petitions to the legislature were also adopted, having for object the reduction of taxation and the repeal of the corn laws. The meeting finally dispersed, having the whole of the proceedings with perfect order and regularity, and Birmingham remained quite tranquil.

It is impossible to contemplate the unanimity and determined spirit of this great assemblage without coming to the conviction that unless a change of ministry shortly occur, convulsions of a nature frightful to look forward to, must inevitably take place. The government has given a giant's strength to a mere dwarf, and upon their heads rest the consequences of allowing organized bands to overawe the executive. It is quite clear the demands of the country for relief from a pressure of taxation, are so overwhelming, that no administration can now hold office without resorting to an immediate reduction of the public burdens, in order effectually to enlist the moderate men to oppose the designing acts of the party of the movement.

St. Petersburgh, May 4.—The Turkish General Namick Pacha left this city on the 29th April, to return to Constantinople.

Berlin, May 13.—Accounts received here yesterday by express, which came by way of Vienna, say that all proposals of peace have been rejected by the Egyptians, and that consequently the state of war will continue.

Hamburgh, May 17.—The Russian Government in Poland has published an ordinance of the Emperor, dated the 23d ult., by which persons accused of certain political offences including the publication of false news, are ordered to be tried before courts martial, the sentence of such courts to be carried into execution as soon as they have received the confirmation of the Viceroy.

The Warsaw papers also contain an account of 25 individuals belonging to the late Polish army, who were concerned in a recent unsuccessful attempt at insurrection. Five of the party were taken by Cossacks on the frontier; one of them poisoned himself, but the other four were brought before a court martial and sentenced to death. The sentence was carried into execution on three of the surviving prisoners; with respect to the fourth, on account of his extreme youth, the sentence was mitigated into corporal punishment and hard labor.

Egyptian Newspaper.—A journal is now published at Alexandria, under the title of *Miszer Wekaiesi* (Egyptian News). The vignette of this paper, in opposition to the Ottoman Crescent, presents half a sun, shining forth from behind a pyramid, on the side of which stands a flourishing young palm tree. On the left of the vignette are these words:—"Printed at the office of the *Divan of Events* in the Royal Castle." This paper, which is in the Arabic and Turkish languages, gives no political news, but is confined to civil and military subjects, which have merely a local interest.

From liberia.—We are indebted to Mr. Williams, Lieut. Gov., and Mr. Rogers, high sheriff of Liberia, who arrived in the ship Jupiter from Liberia, for the following interesting account:—The Colony, at the time they left, contained upwards of 3000 inhabitants, and 250 dwelling houses, 5 churches and meeting houses, viz Episcopalians, Presbyterians, Methodists, and Moravians, an Academy, and several schools.—The colony is governed by a governor appointed by the Board of Managers at Washington, a Lieu. Governor, and two Councillors elected by the people once in each year. The people were contented and happy. It is gratifying to state, that there are only two persons in the whole population who are intemperate. Wheat and Rye have not yet been tried sufficiently to test the quality of the growth. Indian corn grows well, but lessens in size both in ear and stalk. Almost all the vegetables of this country flourish well there. They have one schooner of 60 tons, 1 of 40, and 5 of 6 tons, belonging to the place, and will soon build others. The natives in the interior have lately been very quiet. The staples of the country are rice, which is plenty and good; cotton, which is spontaneous, long, and of fine texture—a person from the south has undertaken to bring it to more perfection. Messrs. Williams and Rogers will proceed to Washington immediately, to confer with the Board of Managers on the propriety of allowing the colonists to choose all their officers, and to make such other alterations in their constitution as are considered necessary. The place was very healthy.—[Mer. & Adv.]

SUMMARY.

Greenwich Savings Bank.—This institution was opened for the first time on Monday last, and we are happy to learn was numerously attended by depositors, consisting principally of mechanics residing in the upper wards. The amount received was *Fourteen Thousand and Fourteen Dollars*, a large sum for the first day, and the amount is an auspicious omen for the success of its future operations, managed as it doubtless will be with intelligence and integrity. The funding Committee consist of Samuel Whittemore, John Bolton, and William C. Rhinelander—gentlemen eminently qualified for the trust reposed in them.

Extract from a letter dated New Orleans, June 17.

"Since last addressing you, wehave had an awful time, from the violence by which the very worst description of the cholera raged until within the last few days. It has ceased as suddenly as it commenced, and there is now no more of it. Our city is very dull, and strangers and almost all off, and nothing but cotton appears to sell."

[*From the Globe of Tuesday.*]

M. Roger B. Huygens, Count de Luvendal, late Chargé d'Affaires, *ad interim*, of his Majesty the King of the Netherlands, took leave yesterday of the Secretary of State of the United States, and presented his successor, M. E. A. Martini.

Ninety-one deaths occurred in our city during the week, ending on Saturday. Five persons died of diarrhoea, and twelve children perished with summer complaint.—[Philadelphia Inquirer.]

[*From the Gazette.*]

A beautiful and almost total Eclipse of the Moon was beheld by many hundreds last Monday from the Battery, very many of whom were, like ourselves, taken by surprize, and were therefore doubly gratified.

[*From the State Rights Banner. (Jackson, Miss.,) June* 13.]

Death of the Governor of Mississippi.—It is with feelings of deep regret, that we announce the death of his Excellency A. M. Scott. He died at the house of Col. Grimball, in this place, last night about 11 o'clock, of cholera. On Sunday evening last he felt slightly indisposed, and took his bed. He continued unwell, but not at all alarmingly so until yesterday about 4 o'clock, P. M., when he was attacked violently with the symptoms of spasmodic cholera. Every thing that medical skill and the attention and kindness of friends could do, was done to save him—but all in vain. He is gone! One of the best of men, the most devoted public servant is gone the way of all flesh. He fell a victim to his sense of public duty—for nothing but the pressure and importance of official business, has kept him in this place since the cholera made its appearance here. His death has been so sudden, and has come with such overwhelming weight upon us, that we must defer for the present any further notice of this melancholy event. We feel much afflicted, that the second number of our journal should appear in mourning columns—but a good and honest man—the chief magistrate of the state—the friend of the stranger—has left us—he died lamented by all who knew him—the object of the respect and regard of every one who admires principle and appreciates character.

Military Election.—At an election, held at Syracuse on the 8th inst. Col. Grove Lawrence, of Camillus, was unanimously elected *Brigadier General* of the 27th Brigade of the N. Y. State Infantry, vice O. Hutchinson, appointed Maj. General.

The name of the Post office at Otisco, Onondago Co., has been changed to that of "Otisco Centre."

Mr. *Edward Livingston* has been recently elected "a Foreign Associate of the Academy of Moral and Political Sciences in Paris," and in the Journal des Debats of 20th ult. we find it stated that the King, by an ordonnance of 8th June, had approved the choice.

Coal Trade.—It appears by the Ulster Republican, that during the week ending on the 22d instant, 6,341 tons 5 cwt. of Lackawana Coal were received at Rondout; and during the same time, 52 vessels were loaded with this article and cleared from that place. Of these, 13 were bound to Providence, 7 to Boston, 2 to Salem, 1 to Jersey City, 1 to Norwich, 1 to Williamsburg, 1 to Staten Island, 2 to Hudson, 1 to Nantucket, 2 to Athens, 2 to Albany, 1 to East Greenwich, 4 to New-York, 1 to Troy, 1 to Bellville, N. J., 1 to Brooklyn, 1 to Poughkeepsie, 1 to Hartford, 1 to Bristol, R. I., 1 to Newburgh, 1 to Haverstraw, 1 to Rahway, 2 to New-Bedford, 1 to Fall River, 1 to New-Haven, 1 to Newport.

It is gratifying to learn, that the Delaware and Hudson Canal has sustained no injury by the late freshet, which has been so destructive at the South.

African Colonization.—We publish with pleasure the annexed circular addressed to the Clergymen of this city. No fitter time than that which commemorates our own freedom, could be selected for aiding in measures to promote that of the slave:

At a recent meeting of the Board of Managers of the New York City Colonization Society, the following resolution was unanimously passed, viz.: "Resolved, That a committee be appointed to address a circular to all the clergymen of the city, earnestly requesting them to have a collection taken up in aid of the Colonization Society in their respective churches, on the 4th of July next, or the Sunday preceding.

The undersigned, appointed a Committee in pursuance of the above resolution, request that you will take measures to have a collection in the Church under your care, for the purpose therein mentioned, and that the proceeds be paid over to the Treasurer of the Society, Moses Allen, Esq. Respectfully yours, &c.

Wm. A. Duer, William Colgate,
G. P. Disosway, John W. Hinton,
Silas Brown.

[*From the Globe.*]

Senior Don Augustin de Yturbide, late Chargé d' Affaires of the United Mexican States, having been appointed Secretary of the Mexican Legation in Great Britain, took leave yesterday, of the Secretary of State of the United States, and presented his successor Senior Don Joaquin Maria del Castillo.

Three Steam Boats Burnt.—The Louisville Advertiser of the 22d ult. contains the fallowing.

FIRE.—About ten o'clock last evening, the steamer *Sentinel* took fire while at the wharf in front of this city. The flames spread with such rapidity that, in less than ten minutes, the *Delphine* above, and the *Rambler* below, were also on fire, and the three boats were burned in about an hour to the water's edge.—The Sentinel had a full freight for N. Orleans, the Rambler had on board several hundred barrels of whiskey, and the Delphine had just received about twenty tons freight from New Orleans for Cincinnati. The engines, greatly damaged, will be saved. The cargoes have been entirely lost. Passengers had barely time to make their escape, leaving baggage, clothing and money on board. There were about twelve steam boats lying in port at the time, and it was with difficulty those on fire were separated from the others.

Dinner to Commodore Chauncey.—We understand that the Commissioned Officers of the Navy and Marine Corps on this Station, amounting to about thirty, gave a dinner to Commodore Chauncey on Wednesdoy, at the City Hotel, as a testimony of their respect and regard on the occasion of his leaving the Navy Yard.—[Gazette.]

[*From the Richmond Compiler of 28th June.*]

CONTENTS OF MR. RANDOLPH'S WILL.—We understand from a friend at Charlotte Court house that the will of Mr. Randolph was opened at Roanoke, his late residence on Friday last, by Judge Leigh, in the presence of Judge Tucker and one or two other gentlemen. The following are the principal if not the only devises.

To Henry St. George Tucker, President of the Court of Appeals of Virginia, ten thousand dollars.

To Judge Leigh of Halifax, ten thousand dollars.

To Judge Leigh's son, John Randolph Leigh, a small boy, five thousand dollars.

To John Wickham, Esq. of this place, some plate and a horse or two.

The remainder of his estate—lands, negroes, &c. to the son of his neice, Mrs. Bryant, of Gloucester, daughter of John Coalter, Esq.

Judge Leigh and Judge Tucker are the executors. This will was made subsequent to his return from Russia, and was dated in January 1832.

Our informant says that he has not himself seen the will, but that he gives us the report believed at Charlotte Court house. This will will be offered for probate at the next Charlotte Court. It is the same that was left in Judge Leigh's possession. An examination is yet to be made among Mr. Randolph's private papers.

The name of our correspondent and his official situation at Charlotte Court house, induce us to place the utmost confidence in the correctness of this his statement.

Mr. Randolph, it is said here, has left two other wills; one dated in 1822, by which he directed the manumission of his slaves—and another in March, 1832. The former of these is the one to which he was understood to refer, when he requested at Philadelphia that the provisions of a previous will should be carried into effect.

[*Office of the Pensacola Gazette, June 18.*]

The United States ship Vandalia, George Budd, Esq., Commander, arrived in our harbor on the 13th instant. The Vandalia has returned from a cruise in the Gulf of Mexico, having since her departure visited the Coast of Yucatan, from thence to Vera Cruz, Tampico, Santander, and as far north as the Rio del Norte; but, in consequence of very rough weather, did not anchor at the latter place.

We regret to learn that the Yellow Fever is prevailing to a great degree in the city of Vera Cruz, where it is said by the inhabitants to prove more fatal this season than has been felt the last six years.

We are also informed of the existence of the Epidemic Cholera in the city and surrounding country of Tampico; it is described by the residents as raging with great violence, and, as if any thing were wanting to add to its desolating character, it is accompanied in its destructive course by the Yellow Fever, which spares not even those who may have escaped the malignity of the other disease.

It is authentically said that the mortality was between eighty and ninety deaths a day in that small city. The atmospheric plague had also extended its polluted breath to the shipping in port laying five or six miles below the town. The other parts of the coast at which this ship touched was reported to be healthy, We are gratified to understand that the officers and crew of the Vandalia are in unusual good health, and that, notwithstanding the nature of the late cruise, all have returned unscathed and untouched by the influence of the climate through which they have passed.

Died, on board, at sea, on the 8th of June, Albert Krusmer, Esq., in the 29th year of his age.

A late Galenian publishes the substance of a *talk* held at the Four Lakes on the 29th April, between Colonel Henry Dodge, of the United States Dragoons, and the Chiefs of the Winnebago Indians living on Rock river. The council was opened by Whirling Thunder, who disclaimed any hostile intentions towards the whites, and sought only the privilege of remaining on the lands now occupied by them, for this season, that they might be able to raise supplies to keep them from starving during the winter. Several other Chiefs made speeches, the main design of which was to obtain the permission solicited by the first orator. Col. Dodge spoke in reply. Adverting to the treaty of 1832, he said, that it had been ratified by the President and Senate, and that every article would be faithfully performed by the United States; and that the President expected the Winnebagoes would comply faithfully with their stipulations. He said, that the United States Rangers would be there in a few days, to keep peace between the white and red men, and to enforce a strict observance of the treaties made between them.—That there were 20,000 rations of pork and flour at Fort Winnebago, on account of the treaty of Rock Island—a portion of which, knowing their necessitous condition, he would take upon himself to give them, to expedite their removal. Corn would also be furnished at Detroit, to be distributed to the Indians at Fort Winnebago, of which those of Rock river would be entitled to a share. He said, further, that General Clark had stated to Mr. Kinzie, the agent, that he would send the $10,000, stipulated to be given them next September, immediately, but that it appeared the chiefs preferred receiving the money in the fall. The Indians finally consented to go to their new lands at the time appointed by the treaty; entreating, at the same time, that their canoes might be taken across the Wisconsin for them. Colonel Dodge promised compliance with this request, and the council ended.—[St. Louis Rep.]

EX-SHERIFF PARKINS.—We observe in several of the morning papers an account of the pending proceedings in the Court of Chancery in relation to this individual. On inquiry, we find that the jury having pronounced by their verdict that Mr. P. is sane, the Court, upon a creditor's bill, and for the security of creditors, have directed Mr. De Peyster, one of the masters resident here, to obtain, as far as he could, a discovery of the property and effects of Mr. P., and to appoint a suitable person as receiver thereof. This appointment has not yet been made, as the master is now engaged in ascertaining the necessary facts. This is the course adopted in similar cases.

MISCELLANY.

INDIANS OF SOUTH AMERICA.—C. Cushing, Esq. in his interesting *Reminiscences of Spain*, makes these remarks:

The destiny of the Indian races in Spanish America has been widely and remarkably different from what it is in the United States. Here the aboriginal nations have little or no physical weight in the progress of events, and are scattered, in weak tribes, over the face of the land, withering and dwindling daily before the overpowering beams of civilization. There, they constitute a large and important element in the population, aggregated into powerful masses, capable by themselves alone of exerting a decided influence upon affairs, and holding, whether as independent communities, or as the subjects of the Spanish Americans, a rank in the scale of public estimation from which no conceivable change of dynasty or governments can cast them down, and possessing importance which the late revolution has powerfully contributed to strengthen and perpetuate.

Of the independent nations, like the Araucos, the Abiponians, and the various other tribes in the vast interior regions of the continent, who have never bowed the neck under the Spanish yoke, the spirit, vigor and numbers are well known to be far from contemptible. The possession of that noble animal, the horse, especially, by bestowing pastoral habits on the wanderers of the immense savannahs of the South, has communicated an energy and a power of forcible and rapid impression to the movements of the Indians, through the means of which, should they ever become concentrated by any common point of union, they would infinitely surpass, in barbaric splendor, the achievements of the ancient Peruvians and Mexicans. With these Arabs of the West, compare the Creeks, Cherokees, and other tribes in the United States, who, hemmed in by our fixed population, have no resource but either to adopt the manners of civilized neighbors, to be gradually extinguished, or to fly with the feeble remnants of their might beyond the Mississippi: and how striking is the relative consequence of South Americans! These nomadic nations, therefore, who sweep the verdant plains of the South, on steeds tameless and swift as the winds, uniting the errant propensities of the Indian hunter and the Tartar horseman, are peculiar objects of interest to the philosophic observer of events intrinsic to America.

But other portions of the Indian population are fast attaining importance from quite different causes. Among these are the Peruvians, and the observation may serve as an apology for now rescuing from unmerited oblivion some of the obscurer incidents of their political history. They have been a despised and an oppressed race. The hand of power has fallen heavily upon them in every age, from the days of the conquest, when the lawless bands of Pizarro trampled on the nation, down through the tyranny of many a provincial autocrat, to the time when Tupa Catari shook the walls of La Paz with the cry of liberty or death, and the limbs of Tupac Amaru were torn asunder by four wild horses. But a ray of hope smiles upon their future prospect. The revolution has raised them, in common with the other degraded castes, from the dust where they had been grovelling for centuries. In this democracy, rank must follow the lead of talent; and in South America, men of Indian descent, particularly those of mixed blood, begin to learn their consequence from the fortune of war. Mulattoes and *mestizos* are amongst the best and bravest soldiers of the revolution; and some of them have arisen upon its stormy waters to that distinction, which, in times of civil commotion, it is impossible to withhold from superior qualities. It may be long ere the multifarious and many-colored classes which compose the population of the revolutionized countries, will acquire the regular and systematic movement of our own more fortunate land. But whether in peace or in war, in times of discord or of tranquility, a race of men, which rises to two thirds of the whole population, which furnishes the laborers, and mans the fleets and armies of a republican country, cannot easily relapse into insignificance, or into the state of abject servitude. And a permanent melioration of condition is therefore the necessary consequence of the actual position of the Peruvians."

HISTORY OF THE CONSTITUTION.

[*From the Boston Commercial Gazette, June 11.*]

FRIGATE CONSTITUTION; COMMONLY CALLED OLD IRONSIDES.—As every circumstance relative to this favorite ship will now be rendered doubly interesting, we propose to offer a brief history of her splendid and glorious career, part of which is from memory, having been present when she was launched, part from official documents, and part we have gleaned from the old newspapers of the day. She was built at Hart's ship yard, at the north end, situated between the Winnisimmit ferry ways and the Marine Railway, and was launched under the superintendence of Col. CLAGHORN, the builder, on Saturday, the 21st of October, 1797; consequently she is now nearly 36 years old. In Russell's Boston Commercial Gazette of the next Monday, we find the following notice:—

"THE LAUNCH.—*A magnificent spectacle!*—On Saturday last, at 15 minutes past M. the frigate CONSTITUTION was launched into the adjacent element, on which she now rides an elegant and superb specimen of American Naval Architecture, combining the unity of wisdom, strength and beauty. The tide being amply full, she descended into the bosom of the ocean with an ease and dignity, which, while it afforded the most exalted and heartfelt pleasure and satisfaction to the many thousand spectators, was the guarantee of her safety, and the pledge that no occurrence should mar the joyous sensations that every one experienced; and which burst forth in reiterated shouts which "*rent the welkin.*" On a signal being given from on board, her ordnance on shore, announced to the neighboring country, that the CONSTITUTION WAS SECURE. Too much praise cannot be given to Col. CLAGHORN, for the coolness and regularity displayed in the whole business of the launch; and the universal congratulations he receh

ved, were evidences of the public testimony of his skill, intelligence, and circumspection."

The severe labor that attended her birth, which was only effected at a third trial, was seized upon by the enemies of a navy, who at that time were numerous and powerful, as prophetic of ill-luck! with how little reason, her brilliant career has fully demonstrated. We may safely challenge the annals of naval history to name a ship that has done so much to fill the measure of her country's glory. She sailed on her first cruise on Sunday, the 22d of July, 1798, and in the Commercial Gazette of the next morning, we find the following:

"Yesterday sailed on a cruise for the protection of our commerce, the frigate Constitution, commanded by Capt. Samuel Nicholson. This noble frigate reflects honor on all concerned in her construction;—on the agent for obtaining every material of the best kind for her equipment, and for having the same manufactured in a superior manner;—on the builder for the execution of the hull, in a style demonstrating our capability of building ships of war at least equal to any of Europe. The Captain is a brave and experienced commander, in whom may be reposed perfect confidence. Her Lieutenants are young men, who have commanded merchant ships with approbation, and of whom fair expectations may be entertained. Her crew are, with very few exceptions, native sons of Massachusetts, many of them connected by the strongest of human ties, *wives and children*. Upwards of one hundred seamen have given orders in favor of their families, to draw monthly half of their pay, the public having made an arrangement for this purpose, evincive of its paternal care and encouragement of our marine. It would seem that nothing is wanting to render this ship and her crew perfect, but that experience, which can only result from actual exercise at sea."

She returned from this cruize about the middle of November. This was during the brief war with the French republic. We notice the appointment of Isaac Hull as her 4th Lieutenant, who, after the lapse of fourteen years, was fortunate enough to occupy a higher station on her quarter-deck, when the charm of British invincibility was destined forever to be broken. On the 28th of December of the same year, she again sailed from Boston harbor, on her second cruize, from which she returned a few months after, without having had the good luck to fall in with any of the enemy's national ships; less fortunate in this respect than the Constellation, under the gallant Truxton, who, about this time, succeeded in capturing the French frigate L'Insurgente, of 40 guns and 417 men. La Vengeance, a large French national ship of 54 guns and 520 men, likewise struck her colors, but was fortunate enough to escape in a squall, and arrived at Curacoa five days after, a complete wreck.

Shortly after this, our commerce in the Mediterranean having suffered severely from the depredations and insults of the Barbary cruizers, our government at once determined on chastising them. In May, 1803, Com. Edward Preble was appointed to the command of this favorite ship, and in June he sailed with the squadron destined to act against Tripoli. To all conversant with this scene of war, it is well known the Constitution acted a conspicuous part, in fact bore the brunt of the battle. After the destruction of the Philadelphia, of 44 guns, she was for a long time the only frigate on the station, and being ably seconded by the gallant Decatur and the smaller vessels, did more in a single year to humble the pride of the Barbary States, than all christendom ever did before or since.

In short, such a variety of service, hair breadth escapes, hard knocks, and perilous adventure, has never been achieved by any single vessel. Peace having been concluded with Tripoli, she soon after returned home, where she remained unemployed, or nearly so, till the commencement of the late war with Great Britain. This was on the 18th of June, 1812. On the 12th of July, she left the Chesapeake for New York, preparatory to a long cruize, and on the 17th discovered and was chased by a British squadron, consisting of the Africa 64, Shannon and Guerriere 38, Belvidere 36, and Eolus 32, under the command of Com. Broke, of the Shannon. During the most critical part of the chase, when the nearest frigate, the Belvidere, had already commenced firing, and the Guerriere was training her guns for the same purpose, the possibility of kedging the ship, although in nearly thirty fathoms of water, was suggested by Lieutenant, now Com. Morris, and was eagerly adopted, with the most brilliant success.—The enemy, who had before been gaining, was now almost imperceptibly falling astern, without their being able to conceive of the mysterious manner in which it was effected. A lucky mile or thereabouts had been gained in this way, before the discovery was made, and then it was altogether too late to avail themselves of it, with any probability of success; a propitious breeze springing up at this moment, of which the Constitution felt the first effects, soon increased the distance, and rendered any further exertions in warping and towing unnecessary.

The Shannon had for some hours all her sails completely furled—with 13 boats towing ahead. The Constitution had three boats towing, the remainder being engaged in carrying out kedges, while the crew on board found sufficient employment in warping up to them; and to this most fortunate expedient is her miraculous escape to be attributed. She bid a final adieu to her kind friends on the 19th, after a chase of nearly three days and three nights, and arrived safe in Boston on the 26th of July. This has always been considered, and undoubtedly was, one of the most brilliant exploits that occurred during the war. The deep feeling—the intense anxiety that reigned throughout the ship during this long and arduous chase, and which were pictured in the countenances of all on board in characters too strong to be mistaken—may be imagined, but cannot be described. Let us suppose for a moment, it had been the destiny of this fine ship to have fallen thus early in the war, into the hands of the enemy—a misfortune as has already been shown which was only escaped as it were by a miracle—what a vast difference it would have made at the close of the war, not to speak of the great moral influence of a first victory, in the profit and loss of our naval glory, and although the balance would still have been greatly upon our side, yet the sum total would have been very sensibly or nearly one half diminished. In the first place the loss of so fine a frigate at this early period would have been irreparable, and in following up the consequences—three of the most splendid victories of the war, together with the same number of hair breadth escapes from a superior enemy, would now have to be deducted from the aggregate of our glory, making a difference, both ways, of more than 200 guns and almost 1500 men.

After remaining a few days in port she sailed again, and on the 19th of August—precisely one month after her escape—was lucky enough to fall in with one of the same frigates cruizing alone and with her name emblazoned in large characters in her fore-top-sail. Nothing daunted at this, however, the Constitution took the liberty of edging down, for the purpose of ascertaining the object of such a close pursuit a few weeks before.

As soon as the two ships were within whispering distance, an explanation commenced which, after a close conference of thirty minutes, ended to the complete satisfaction of Captain Hull. She proved to be H. B. M. frigate Guerriere, Capt. Dacres, of 49 guns and 302 men, and had been totally dismasted, and in other respects was rendered such a complete wreck, that getting her into port was altogether out of the question. She was accordingly burned, and the Constitution returned again to Boston, where she arrived on the 30th of August. Never shall we forget the enthusiasm with which she was received.

The news arrived in town during divine service on Sunday morning, and the crowds that flocked to State street to hear the particulars of such a glorious victory, and the shouts that rent the air, fully evinced the deep interest that was felt by every class of the community.

The ship had anchored in President roads about five miles from town, and in the afternoon the harbor was alive with pleasure boats, anxious to take a closer view of Old Ironsides, and to exchange congratulations with her gallant crew. We among hundreds of others sailed round her several times, endeavoring in vain to trace the effects of an engagement with a British frigate of nearly equal force, that had occurred only eleven days before, and in which her antagonist was entirely demolished in the short space of half an hour. We could hardly believe our own eyes—no serious damage whatever was visible; now and then a place or two were pointed out where a splinter had been driven off, but on the whole she appeared in almost as perfect order as when she left the harbor only about three weeks before; indeed it seemed to us that like Shadrach, Meshech and Abednego, she had passed the fiery ordeal entirely unscathed. This was indeed a new state of things, and served not a little to increase the hope and confidence of the friends of our gallant navy throughout the Union.

Captain Hull, being now called upon, if we remember right, to attend to the affairs of a deceased brother—gave up the command of the ship to Capt. William Bainbridge, who, with the same crew, shortly after sailed on another cruize to South America—the sloop of war Hornet, Captain Lawrence, also under his command, from whom however he was soon after separated. On the 29th of December of the same year, while cruizing about 10 leagues from the coast of Brazil, she fell in with, and after a close engagement of nearly two hours, captured H. B. M. ship Java, of 49 guns and upwards of 400 men—Captain Lambert being mortally wounded during the engagement. In addition to her full crew, the Java had upwards of one hundred supernumeraries on board—officers and seamen—to join the British ships of war on the East India station. Besides these there were a number of land officers: among the rest Lieut. Gen. Hislop, Major Walker and Captain Wood.

This was one of the best contested battles that was fought during the war—the Java indeed only struck her flag, when every mast, bow-sprit and all, had, one after another, gone by the board. Com. Bainbridge, in his official account says—"The great distance from our own coast, and the perfect wreck we made of the enemy's frigate, forbade every idea of attempting to take her to the United States. I had therefore no alternative left but burning her, which I did on the 31st of December, after receiving all the prisoners and their baggage, which was very hard work, only having one boat left out of eight, and not one left on board the Java." After blowing her up, the Constitution returned to Boston, where she arrived on the 18th of February, 1813.

Well do we remember being at the Federal street Theatre, when the news of this victory was announced from the stage by the manager, Mr. Powell; and shortly after, when the gallant Commodore, together with some of his officers, appeared in one of the boxes, the whole house resounded for many minutes with the cheering of the audience. The veteran Cooper, then in the prime of life, was in the second act of Macbeth, and although he stood a little behind the scenes, entirely forgetting the gracious Duncan he had murdered, we saw him swing his cap round with as much enthusiasm as any one.

In June 1818, Capt. Charles Stewart was appointed to her command, and on the 30th of December, she proceeded to sea, notwithstanding Boston was then blockaded by seven ships of war, and safely run the gauntlet through the whole of them. She returned on the 4th of April, 1814, and was chased into Marblehead by two of the enemy's heavy frigates, La Nymphe and Junon.

About the middle of December 1814, she proceeded on her second cruize under Capt. Stewart, and on the 28th of February, off Madeira, fell in with and after a severe action of 40 minutes, succeeded in capturing H. B. M. ships Cyane of 34, and Levant 21 guns, and 325 men. A more perfect specimen of nautical skill was probably never witnessed, than was exhibited throughout the whole of this memorable battle. The advantages of a divided force, or as the boys call it, of two upon one, are well known to all, particularly to men of naval science. A raking fire is almost always very sure to be decisive of the fate of a battle; and to have avoided this from either of his opponents, and with a leading breeze too, is indeed miraculous, especially when we recollect that the Constitution succeeded in raking both her antagonists more than once during the engagement.

After taking possession of her prizes, the three ships made sail for the Cape de Verd Islands, and on the 10th of March came to anchor in the harbor of Port Prayo in the Island of St. Jago. Two days after this, a squadron of the enemy hove in sight, consisting of the Newcastle and Leander, of 50 guns each, and the Acasta frigate of 40, the whole under the command of Sir Geo. Collier, and in 7 minutes after the discovery was made, the Constitution with her two prizes had cut their cables, and were under way, being at this time only about gun shot to windward of the enemy. The Levant was recaptured. The Cyane had the good fortune to escape and now forms a part of our Navy. The Constitution continued her cruize, and shortly after returned to Boston, where she was received with every possible demonstration of joy and exultation. The last news from her had been brought by the Cyane, arrived at New York, when the above squadron was left in chase, and she had heard a heavy canonading shortly after losing sight of her, so that the most intense anxiety had for some time been entertained for her safety.

Peace had now been proclaimed, and to have lost this noble vessel and her gallant crew at this late hour, and after such a catalogue of glorious services too, would have cast a gloom over the whole country.

No wonder then that her safe arrival, after so many "moving accidents by flood and field;" and after having escaped so many perils of "the waters,

winds and rocks"—should be greeted with such universal enthusiasm. Capt. Stewart not only received the thanks of Congress, but of almost every State Legislature then in session, and from many quarters some more substantial marks of approbation.

After this, old Ironsides was taken to the Navy Yard and immediately dismantled,—where she remained unemployed, we believe, with a single exception, till the spring of 1825, when she was again fitted out, and sailed under the command of Capt. Daniel T. Patterson to join the squadron in the Mediterranean. She remained there about three years, after which she returned to the U. States, and as if to add one more to the many instances of good luck that have always attended her—she was so fortunate as to arrive and fire a federal salute in her native city—during the celebration of the 4th of July, 1828, and contributed not a little, as well by her beautiful appearance as by the delightful associations that are ever uppermost in the presence of such a glorious vessel, to heighten the splendor and add a zest to the festivities of the day.

We have now we believe briefly touched upon most of the leading incidents in the eventful history of this favorite ship; doubtless there are many others well worth recording, but which can be only known to those who at the time of their occurrence were on board of her. We have never been able to find any but unsatisfactory accounts of her operations before Tripoli, and the other Barbary States. A complete and impartial history of the movements of our several squadrons in those seas from 1803 to the present moment, would not only prove extremely interesting, but as a matter of record would be invaluable. We sincerely hope some competent person may be found who is willing to undertake it.

About twelve years since the Constitution was hove out and completely examined at the navy yard in Charlestown, when her timbers, &c., were found to be in remarkable good order, a fact which, after twenty-five years wear and tear and hard service, redounds not a little to the credit of the old fashioned mechanics of Boston.

In her actions with the Guerriere and Java she mounted 54 guns, and 52 when engaged with the Cyane and Levant, her armament being 30 long 24 pounders on the main deck and 24 32 pound carronades on the upper deck. Her loss in the action with the Guerriere was killed and wounded, 14; with the Java, 34, and with the Cyane and Levant, 14 more—total, 62.—The Guerriere's loss, killed, wounded, and missing, was 103; the Java's 161; Cyane's, 38; Levant's 39—total, 341, or in the proportion of five and a half to one. The prisoners were nearly one thousand.

The dry dock into which old Iron-Sides is now about to be taken, as well as the one which has recently been completed at Norfolk, is undoubtedly one of the most splendid specimens of stone masonry to be found in the world.

We have heard it spoken of by intelligent travellers, who have visited most of the naval depots in Great Britain, France and Russia, as by far surpassing any thing of the sort they had ever before witnessed. Indeed no expense has been spared by the government to render these magnificent public works as complete and perfect in every respect as possible. They were planned and have been constructed under the superintending care of Col. Loammi Baldwin, a gentleman who, for skill and science, has no superior in the country. The Delaware 74 was probably taken into the dock at Norfolk on Monday last; and should the President arrive here to-day, as is expected he will, the Constitution will probably be hauled in to-morrow afternoon, or at farthest on Monday next. T.

[*From the Pittsburg Gazette.*]

THE CAPTURE OF FORT DU QUESNE.—We received the following account of some incidents which occurred on the day of the taking possession of this place, by General Forbes, from an esteemed friend, to whom it was related by Captain Craighead, who commanded a company of Provincials on that day.

On the evening of the 24th of November, 1758, General Forbes encamped 12 miles from this place. During that day he had received intelligence that the French commandant was preparing to abandon Fort Du Quesne. The defeat of General Braddock, only three years before, was too recent to be forgotten, and of course operated as a salulary hint to General Forbes, not to advance rashly. The intelligence, therefore, even if believed, was not communicated to the troops.

On the morning of the next day, 25th November, 1758, the army advanced from their encampment—the provincial troops in front, followed by a body of highlanders.

Upon their arrival at the rising ground, just beyond where the turnpike gate now stands, they entered upon an Indian race path, upon each side of which a number of stakes, with the bark peeled off, were stuck into the earth, and upon each stake was fixed the head and kilt of a Highlander, who had been killed or taken prisoner at Grant's defeat. The provincials being front, obtained the first view of these horrid spectacles, which it may readily be believed excited no very kindly feelings in their breasts.—They passed along, however, without any manifestation of their violent wrath. But as soon as the Highlanders came in sight of the remains of their countrymen, a slight buzz was heard in their ranks, which rapidly swelled, and grew louder and louder. Exasperated not only by the barbarous outrages upon the persons of their unfortunate fellow soldiers who had fallen only a few days before, but maddened by the insult which was conveyed by the exhibition of the kilts, and which they well understood, as they had long been nicknamed the "petticoat warriors" by the Indians, their wrath knew no bounds.

Directly a rapid and violent trampling was heard, and immediately the whole corps of highlanders, with their muskets abandoned and broadswords drawn, rushed by the provincials, foaming with rage, and resembling, as Captain Craighead coarsely expressed it, "mad boars engaged in battle," swearing vengeance and extermination upon the French troops, who had permitted such outrages. The march was now hastened—the whole army moved forward after the Highlanders, and when they arrived somewhere about where the canal now passes, the Fort was discovered to be in flames, and the last of the boats, with the flying Frenchmen, were seen passing down the Ohio by Smoky Island. Great was the disappointment of the exasperated Highlanders at the escape of the French, and their wrath subsided into a sullen and relentless desire of vengeance.

POETRY.

The following random rhymes, written in pencil on the back of a letter—probably by some steamboat passenger, waiting for the night-boat, were picked up in the baggage-house of the Westpoint landing, and, for the want of a better designation, are communicated to the New-York American, under the title of

WESTPOINT BY MOONLIGHT.

I'm not romantic, but upon my word,
There are some moments when one can't help feeling
As if his heart's chords were so strongly stirred
By things around him, that 'tis vain concealing
A little music in his soul still lingers
Whene'er its keys are touched by Nature's fingers:

And even here, upon this settee lying,
With many a sleepy traveller near me snoozing,
Thoughts warm and wild are through my bosom flying
Like founts when first into the sunshine oozing;—
For who can look on mountain, sky, and river,
Like these, and then be cold and calm as ever?

Bright Dian, who, Camilla-like, dost skim yon
Azure fields—Thou who once earthward bending
Didst loose thy virgin zone to young Endymion
On dewy Latmos to his arms descending—
Thou whom the world of old on every shore,
Emblem of thy sex, *Triformis* did adore—

Tell me—where'er thy silver barque is steering,
By bright Italian or soft Persian lands,
Or o'er those island-studded seas careering,
Whose pearl-charged waves dissolve on coral strands—
Tell me if thou visitest, thou heavenly rover,
A lovelier spot than this the wide world over?

Doth Achelöus or Araxes flowing
Twin-born, from Pindus, but ne'er-meeting brothers—
Doth Tagus o'er his golden pavement glowing,
Or cradle-freighted Ganges, the reproach of mothers,
The storied Rhine, or far-famed Guadalquiver,
Match they in beauty my own glorious river?

What though no turret gray or ivied column
Along these cliffs their sombre ruins rear?
What though no frowning tower or temple solemn,
Of despots tell and superstition here—
What though that mouldering fort's fast-crumbling walls
Did ne'er enclose a baron's bannered halls—

Its sinking arches once gave back as proud
An echo to the war blown clarion's peal
As gallant hearts its battlements did crowd—
As ever beat beneath a vest of steel,
When herald's trump on knighthood's haughtiest day
Called forth chivalric host to battle fray:

For here amid these woods did He keep court,
Before whose mighty soul the common crowd
Of heroes who alone for Fame have fought
Are like the Patriarch's sheaves to Heav'n chos'n bowed—
He who his country's eagle taught to soar
And set those stars which shine o'er every shore.

And sights and sounds at which the world have wondered
Within these wild ravines have had their birth—
Young Freedom's cannon from these glens have thundered
And sent their startling echoes o'er the earth;
And not a verdant glade or mountain hoary
But treasures up within the glorious story.

And yet not rich in high-souled memories only,
Is every moon-touched headland round me gleaming,
Each cavernous glen and leafy valley lonely,
And silver torrent o'er the bald rock streaming;
But such soft fancies here may breathe around,
As make Vaucluse and Clarens hallow'd ground.

Where, tell me where, pale Watcher of the Night—
Thou that to love so oft hast lent its soul,
Since the lorn Lesbian languished 'neath thy light,
Or fiery Montagu to his Ju iet stole—
Where dost thou find a fitter place on earth,
To nurse young love in hearts like theirs to birth?

But now bright Peri of the skies descending,
Thy pearly car hangs o'er yon mountain's crest,
While Night more nearly now each step attending,
As if to hide thy envied place of rest,
Closes at last thy very couch beside,
A matron curtaining a virgin bride.

Farewell! Though tears on every leaf are starting,
While through the shadowy boughs thy glances quiver,
As of the good when Heavenward hence departing,
Shines thy last smile upon the placid river.
So—could I fling o'er glory's tide one ray—
Would I too steal from this dark world away. M.

[*From Mrs. Hale's Magazine.*]

THE SWEDISH GIRL.

"Previous to the departure of Baron de Stael from Sweden, he was enamored of his second cousin, a beautiful girl, whom he had promised to marry; but after the offers received by him from the Neckar family, he wrote to inform her of the peculiar circumstances in which he was placed, and that his union with a lady whom he did not love, would be the means of raising his family from poverty and obscurity. His cousin, without any other answer, returned him his marriage promise stained with her tears, and in seven weeks she was a corpse."

"Even to *pause* on such a thought!
How could it cross his mind!
Vain honors *traffic'd* for and bought,
With happiness resigned!
And love like mine cast meekly by,
At cold ambition's call!—
My heart, be calm!—why should I sigh?
Tears, tears, why will ye fall?
The Swedish girl should scorn to stand
'Tween him and his adopted land.

For him what could I not have borne,
What wo or poverty!
And rich in love, have smiled in scorn,
When heartless wealth rolled by.
I would have urged him up the steep,
Where hangs the noblest crown
Honor may gain, or virtue keep—
An honest man's renown!
Soothed him when yielding to his toils,
And brightened each success with smiles.

Yet why thus linger o'er a dream
That my fond spirit bound,
But lent my soul no cheering beam
To light the darkness round!
Well, be it so;—I may not speak
What stirs within my heart;
The fettered spirit soon will break
Through all things, and depart:
Yet 'twould be sweet again to bless
The object of past tenderness!

Ay, take thy bride, the gifted one,
And glory in her fame!
And when, pervading in the sun,
Her genius lights *thy* name,
Forget, amid its dazzling rave,
How dim thine own appears;
Nor think upon the heartfelt praise
Was thine in former years,
When mingling love, and hope, and pride,
With her now coldly thrown aside.

Ay, wed another—wed the great!
Gain wealth, but with it *care!*
Soon shalt thou feel the galling weight,
And mourn each glittering snare
That wiled thee from thy plighted vow,
From first and unfeigned love;
And bade thee to a *stranger* bow,
A stranger's *bounty* prove!
Madness! that one so loved by me,
Should ever so degraded be!

It may not be! I cannot ask
Earth's happiness for one
Who hath imposed the bitterest task,
That woman's pride has done.
I'll curse not, though I may not bless
The idol of my youth,
But, in my *wreck* of happiness,
I'll prove unfaltering truth.
And, blotted thus with tears, return
The pledge I would, but cannot spurn!"

And such is woman's love! not even pride,
That oft quells passion in its fiercest tide,
This high souled, injured Swedish girl could save,
Fair spring wove garlands o'er her early grave.

MOINA.

TRY ME.

Long, too long, I've waited dearest,
Why, oh why, deny me?
If my constancy thou fearest,
Take me, love, and try me.

See the crystal tear is glowing,
One bright smile will dry it;
Doubt not, when 'tis easy knowing,
Try it, dearest, try it!

Joys when brightest still are fleetest,
Haste, dear maid, they're flying,
Wedded love, the fondest, sweetest,
May be had for trying.

Now I see thy heart relenting,
Dearest I defy thee;
Eyes and cheeks alike consenting,
Maiden, shall I fly thee?

Hopes and vows thus fondly meeting,
Dearest, do not chide them:
They who say Love's joys are cheating,
Never thus have tried them!

MARRIAGES.

On Monday evening last, at Harlem Heights, by the Rev. Dr. Bogart, Col. AARON BURR, to Mrs. ELIZA JUMEL.

Tuesday morning, by the Rev. Dr. KNOX, JOSEPHUS GRANGER, to A. JANE, daughter of D. L. Haight, Esq. all of this city.

On Tuesday last, by the Rev. Dr. McAuley, P. C. OAKLEY, of Ogdensburg N. Y., to Miss SARAH A. DODGE, daughter of Dani. Dodge, Esq. of this city.

On Tuesday morning last, by the Rev. Wm. Parkinson, GEO. G. RYERSON, Esq. of New Jersey, to ANNA MARIA, daughter of Rosewell Graves, M. D. of this city.

On Saturday evening, the 29th June, by the Rev. Dr. Phillips, HENRY N. CRUGER, Esq. of Charleston, South Carolina, to HARRIET, daughter of the late George Douglass, of this city.

On the evening of the 28th, at Christ Church, by the Rev. Dr. Lyell, Mr. HENRY W. CLAPP, of the firm of Palmer & Clapp, to Miss ANNA C. daughter of the late Capt ROBERT B. HILLIARD.

On Thursday last, in St Thomas' Church, by the Rev. Doctor Hawks, WILLIAM PETERS, to CHRISTIANA A. JACKSON.

On Tuesday, 25th instant, at Phillipstown, by the Rev. Mr. Sunderland, Mr. T. S. SHEPARD. of this city, to Miss ELIZABETH JENNET, daughter of JUDGE GARRISON, of the former place.

At Bedford, Westchester Co., N. Y., on Wednesday evening, 26th June, by the Rev. Jacob Green, J. W. TOMPKINS, Esq. of White Plains, to Miss MARY J., daughter of the late Jotham Smith, Esq. of the former place.

At Syracuse, Onondaga county, on Friday evening last, by Rev. J. W. Adams, E. W. LEAVENWORTH, Esq. to MARY E. daughter of Joshua Forman Esq.

At Poughkeepsie, on Tuesday morning, by the Rev. Francis M. Kip, GEORGE L. MIDDLEBROOK. to ELEANOR H. K., adopted daughter of Charles Trender.

DEATHS.

On 29th ultimo, after a long illness WILLIAM ELLIOTT HUGER, aged 27 years, son of Judge Huger, of South Carolina.

On Thursday afternoon, GARRAT NOEL BLEECKER, in the 65th year of his age.

On Saturday morning, Mr. JOHN M. SOUTHART, in the 39th year of his age.

On Monday afternoon, after a lingering illness, Susan Frost, in the 43d year of her age, widow of the late Stephen Frost.

On Friday morning, Mr. JAMES VAN BEUREN, an old and respectable citizen, lumber merchant, in the 69th year of his age.

On Friday afternoon, 21st inst. Mrs. ELIZABETH OWENS, in the 24th year of her age.

This morning, at 2 o'clock, Mr. JOHN RUTHVEN, in the 80th year of his age.

Yesterday, Joseph Pell, aged 28 years.

This morning, in the 69th year of her age, Mrs. ANN ROGERS.

Last evening, SARAH, the wife of Joseph Jennings.

This morning, June 26th, after a lingering illness, in the 91st year of his age, RYNIER SUYDAM, Esq.

On Friday morning last, at her residence at Yonkers Mrs. RACHEL ROBERT, aged 90 years.

At Moscow, on Friday last, Jellis Clute, Esq. aged about 52.

In Lyons, Mrs. Sarah Hovey, aged 21.

In Canandaigua, on the 16th inst. Mrs. Laura Brewer, wife of Alonzo Brewer, Esq. aged 34.

At Gouverneur, St. Lawrence Co., on the 23d ult. Horatio K. Kneeland, aged 26.

At China, Genessee co. on the 5th inst. the Rev. Wm. Lyman, in his 69th year.

At Raleigh, Mr. Benson Card, aged 100 years, the oldest inhabitant.—He has been married to his wife, still living, 70 years.

At Cantonment Gibson, on 1st May, Massey Logan, of Lawrence county, a Ranger in Capt. Bean's Company.

On Monday, June 10, at the residence of Col. John Williams, in the vicinity of Knoxville, Tenn., the Hon. NATHANIEL W. WILLIAMS, of Smith county, for many years one of the Judges of the Circuit Court in Tennessee.

At Charleston, S. C., the Rev. ALLSTON GIBBES, Assistant Minister of St. Philip's Church, an efficient and faithful servant of the Church, always active and diligent in attention to her interests.

At Rankin, Miss., on a tour of travel through the U. States, WASHINGTON ROMAINE, Attorney at Law, aged 33 years and 6 months, son of BENJAMIN ROMAINE, Esq. of this city.

At Baton Rouge, on the 6th of June, of Cholera, in less than six hours after being attacked by it, ROBERT KANE MORRIS, son of Thomas Morris of this city, and grand son of Robert Morris, Financier of the United States during the revolutionary war, and one of the signers of American Independence.

At New Orleans, on the 6th of June, of the Cholera, Mrs. MARY, wife of G. W. ESTES, aged 19 years, of Jefferson county, New-York.

Also, the Rev. James F. Hull, late Rector of Christ Church.

On board the steamboat Mount Vernon, June 13, THOMAS YEATMAN, Esq. of the banking house of Yeatman, Woods & Co. of Nashville. Mr. Yeatman left Nashville with his family with the intention of proceeding to Philadelphia, and a day or two after his departure he was attacked by Cholera, and in a about thirty hours after the attack, expired with perfect resignation and composure, in the 45th year of his age.

Mr. Yeatman was a native of Pennsylvania, and settled in Nashville about the year 1809, where by a course of prudence, industry, and enterprize, he acquired an ample fortune, and enjoyed the enviable reputation of being one of God's noblest works, 'an honest man.' Nashville, by the prevailing epidemic, has lost some of her most estimable and valuable citizens, but amongst them there is none whose loss will be more deeply felt, than the subject of this notice.—[Nashville Republican.]

On the 2d of June, at sea, on board the brig Plymouth, Capt. Daggett, while on her voyage from Leghorn to New York, WM. E. RAPELJE, Esq. of Fishkill, Dutchess county.

On the 19th May last, at Bradford, Eng. in the 70th year of her age, Mrs. WOODHEAD, relict of the late Mr. Matt'w Woodhead, and mother of J. & T. Woodhead, of this city.

TO DIRECTORS OF RAILWAY COMPANIES AND OTHER WORKS.

☞ An Engineer lately from England, where he has been employed in the location and execution of the principal railways in that country, wishes to engage with some company in the United States.

From his practical knowledge of the various kinds of motive power, both of stationary and locomotive engines, also the construction of railway carriages of many descriptions, he has no doubt that he would prove of efficient service to any company having works now in progress.

Letters addressed to W. E. G. 25 Wall street, or to the care of Wm. & F. Jacques, 90 South street, will be punctually attended to. Most satisfactory reference can be given. m11 tf

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May*, offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co, Albany; or James Archibald, Eng near Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833. F31 tf

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. J31 6t

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Hearttе —Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accident, to which all Instruments are liable. They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD. U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Hearttе— As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming aquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same. m26

RAILROAD CAR WHEELS AND BOXES,

AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

J8 ROGERS, KETCHUM & GROSVENOR.

☞ GRACIE, PRIME & CO., offer for sale, at 98 Broad street—

2 cases Gum Arabic		
20 do. Danish Smalts, EFFF		
10 do. Saxon do. do.	}	Reduced Duty
100 bags Saltpetre		
2 do Gall Nuts; 20 tons Old Lead		
100 do. Trieste Rags, FF		
6 boxes each 50 lbs. Tartaric Acid		
6 do. each 25 lbs. do. do.		
1 case 50 bottles Syrop de Vinaigre		
10 cases White Hermitage; 20 do. Cote Rodie		
10 do. Dry St. Peray: 50 do. Bordeaux Grave		
20 do Chateau Grille; 5 cases each 12 bottles Olives in Oil		
8 bales Fine Velvet Bottle Corks		
100 do. Bourbon Cloves		
30 do. Molieres Almonds		
143 bundles Liquorice Root		
4 bales Goat Skins		
1 cask Red Copper, 1 do. Yellow do.		

DRY GOODS BY THE PACKAGE.

10 cases light and dark ground Prints
40 do. 3-4 and 6-4 colored and black Merinos
15 do. 5-8 colored and black Circassians
2 do. Silk Bandannas, black and colored
4 do. Italian Lustrings
3 do White Satteens
4 do. White Quiltings
10 do. Borrie's Patent Thread, No. 22 and 25
10 do Super high col'd Madras Hdkfs, ent. to debenture
100 pieces Fine English Sheetings, for city trade
3 cases Cantoon Cords
2 do. Super blue, black, and colored Cloths—selected expressly for Merchant Tailors
25 bales low priced pain Blankets.

PAPER—

IMPERIAL AND ROYAL—From the celebrated Saugerties Mills, of the following sizes, all put up with 480 perfect sheets to each ream—

Sizes—24x35, 24½x36, 21x34½, 23x36, 26x37, 20x41, 27x38½, 21x28, 24x29, 24x28, 21x26, 21x29, 20x24, &c., &c.

Also—All the old stock of Medium will be sold at very reduced prices, to close sales, the Mill having discontinued making that description of paper.

ALSO,

Chinese Colored Paper—for Labels, Perfumery, &c.
5 cases each 1600 Sheets Colored Paper

2 do	do	do	do	do	superfine
2 do	do	do fig.	do	do	
3 do	do	do plain	Gold	do	
2 do	do	do plain	Silver	do	
2 do	do	do	Silver	do	with red figures
2 do	do	do	Gold	do	do
2 do	do	do	Red	do	Gold do
2 do	do	do	White	do	Silver do. A20

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1833.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Phila., Germant. and Norris. Railroad

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